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An investigation into the effectiveness of different dictionary types for intermediate learners of German

by

Ursula Wingate

A thesis submitted in partial fulfilment of the requirements for the Degree of Doctor of Philosophy at the University of Hong Kong
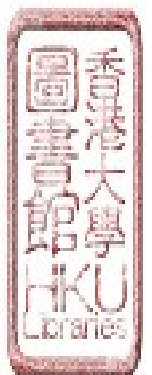
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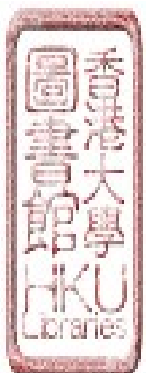
Declaration

I declare that this thesis represents my own work, except where due acknowledgement is made, and that it has not been previously included in a thesis, dissertation or report submitted to this University or to any other institution for a degree, diploma or other qualification.

Signed _____

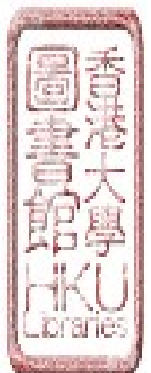## Acknowledgements

Abstract of the thesis entitled

An investigation into the effectiveness of different dictionary types for intermediate learners of German

submitted by

Ursula Wingate

for the degree of Doctor of Philosophy at the University of Hong Kong
in December 2000

The research reported in this thesis examines two main questions: firstly, which dictionary type, bilingual or monolingual, is most effective for intermediate learners of German for reading comprehension, and secondly, which features make monolingual dictionary definitions effective for these learners. These questions divide the thesis into two parts. The first part compares the effectiveness of the bilingual versus the monolingual dictionary, and the second part compares two different monolingual definition styles.

The research was originally motivated by the observation that Hong Kong Chinese intermediate learners of German prefer to use a German-English bilingual dictionary. Since the translations are presented in the learners' second language, the effectiveness of this bilingual dictionary is doubtful. On the other hand, the learners are reluctant to use the monolingual dictionary, recommended to them by their language teachers. Three investigations were conducted in order to gain more detailed knowledge about the learners' dictionary preference, and the effectiveness of the two dictionary types. The learners' dictionary preference was investigated by means of a survey of ninety-eight foreign language students. The effectiveness of the bilingual and monolingual dictionary for reading comprehension and incidental vocabulary learning was first measured experimentally. The think-aloud method was then used in order to discover factors which determine the effectiveness of the two dictionary types.
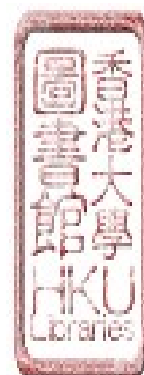
The results of the experiment revealed that the German-English bilingual dictionary was not significantly more effective for the learners than the monolingual dictionary. The only monolingual dictionary available for German at that time, however, is
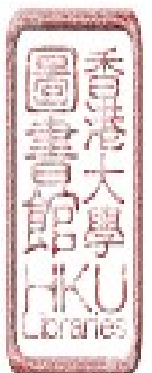
linguistically too difficult for this proficiency level. Because of these findings, the research turned to monolingual dictionary definitions with the aim of identifying features that make them accessible to intermediate learners. Based on findings from the first think-aloud study, and principles promoted as user-friendly in the lexicographic literature, new definitions were developed for the target words in the research. These new definitions were compared with those in the existing dictionary. A second think-aloud study was conducted in order to generate hypotheses about individual definition features. These hypotheses were then tested in the second experiment, which was conducted with eighty-six learners of German in Shanghai.

The investigations reveal several features that determine the effectiveness of monolingual definitions for intermediate learners. The findings have theoretical and pedagogical implications. In the theoretical field, some lexicographic principles were recommended that are, unlike previous principles, based on empirical insights into user needs. In the pedagogical field, the research findings provide an empirical basis for the evaluation and recommendation of suitable dictionaries to intermediate learners.

A model of dictionary effectiveness is proposed. This model could help to assess the effectiveness of different information categories in dictionaries for different proficiency levels and different activity contexts. It could also provide lexicographic principles for the design of dictionaries. This research contributes one component to the proposed model: criteria for the effectiveness of definition features for intermediate learners in the activity context of reading.

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Chapter 6: The comparison between the different definition types: the main think-aloud study

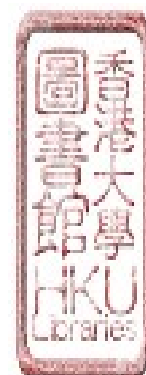## Chapter 7: The comparison between the different definition types: the experiment

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1.1. The effectiveness of learners' dictionaries for different proficiency levels: a research gap

The importance of the dictionary as a teaching and learning aid has found wide recognition in the last twenty years. During that period, the EFL market has seen the publication of several new monolingual learners' dictionaries, as well as new editions of existing learners' dictionaries. By contrast, the German language has no long tradition of learner lexicography, and the first monolingual learners' dictionary, *Langenscheidts Großwörterbuch Deutsch als Fremdsprache* (LGDaF), came onto the market only in 1993. In 1999 and 2000, two more German monolingual learners' dictionaries were published. However, as shall be argued below, research into their use has not kept pace with the rapid development of new dictionaries.

Language learning is a long continuum from the very beginning stage up to the level of almost native-like competence. For which stages in this continuum are learners' dictionaries usually designed? Considering the variety of learners' dictionaries, surprisingly little has been said about their suitability for learners of different proficiency levels. Advanced learners may have little difficulty in coping with any dictionary, and eventually reach the level when they can use dictionaries for native speakers. By contrast, intermediate learners need a dictionary which is linguistically not too demanding, and in order to find a suitable dictionary, they need advice. According to Cowie (1999: 184), students "rely overwhelmingly on the advice of their teachers" when buying dictionaries. However, there is at present little knowledge about the suitability of dictionaries for learners of different proficiencies on which teachers can base their advice. One example is the switch from the bilingual to the monolingual dictionary. Because

> "it has long been accepted orthodoxy for most EFL teachers (and teachers of other foreign languages) that learners should be encouraged to use monolingual dictionaries ...rather than bilingual dictionaries..." (Thompson 1987: 282),

many teachers recommend the monolingual dictionary to intermediate learners despite the fact that understanding definitions in the foreign language may cause problems at this level (ibid.: 283/4). However, there is neither research evidence of

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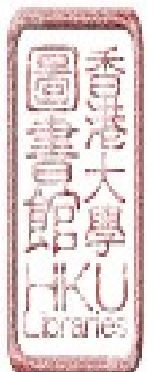
the superiority of the monolingual dictionary, nor of the proficiency level when it can be successfully used. This dilemma does not only concern the choice between bilingual and monolingual dictionaries, but also choices between different monolingual dictionaries. The lack of research into dictionary use, that is further discussed below, may result in inappropriate choices of dictionaries for learners, as teachers have to rely on beliefs, experience and intuition rather than empirically-based knowledge when recommending dictionaries to learners. The lack of research is also responsible for certain deficiencies in learners' dictionaries which prevent their effective use.

There are three possible reasons why learners are not using their dictionaries with the best possible effectiveness:

1) A lack of training in dictionary use (Cowie 1999: 191) and lack of advice on the right dictionary choice. The latter is often due to the fact that teachers are unaware of the quality of dictionaries (Tickoo 1989: x). Therefore, although there is a variety of dictionaries designed for learners, especially for English, these dictionaries remain "a poorly used rich resource" (Lau 1989: iii). As Strevens asserts, ..."the use, and hence the effectiveness, of LDs (learners' dictionaries) depends centrally on the teacher..." (1987: 5).

2) A lack of criteria for the evaluation of dictionaries. Especially in view of the publication of so many dictionaries in the last two decades, an evaluation instrument is needed to assess the quality of dictionaries as well as their suitability for learners at different levels. However, as there is little research-based knowledge of what features in a dictionary are effective or ineffective for learners, criteria for the evaluation of dictionaries have not been derived. As Quirk noticed:

> "...we continue to lack a critical framework within which dictionaries can be assessed, achievements measured, deficiencies arraigned" (1986: 5).

The lack of an evaluation instrument is a major reason why educators are unable to recommend suitable dictionaries to learners.

3) A lack of knowledge among dictionary compilers of how to present information in a way that it can be best understood by learners. As shall be discussed below, dictionary writers do not have sufficient information on user needs, as little research has been done to reveal these needs. In order to develop highly effective dictionaries it is necessary to know details about the features in

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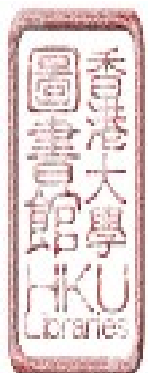
dictionaries which are helpful, and those which are difficult for learners. If suitable dictionaries for learners are to be developed, lexicographers must possess in-depth knowledge of how learners use dictionaries, and how they perceive the information presented in dictionaries.
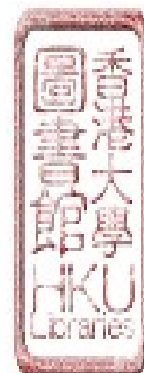
The gap between educators' and lexicographers' perceptions and learners' needs was expressed by Hartmann:

> "Statements about which (types of) dictionaries are 'necessary' or 'useful' in the foreign-language teaching context are regularly made, but they tend to be full of preconceived ideas of what dictionaries (should) contain rather than what learners actually require" (1989a: 181/2).

In summary, if teachers knew more about the reference skills of their learners, they could provide appropriate dictionary training. If they had a set of criteria to assess dictionaries, they could recommend the most suitable dictionary for their learners. If lexicographers knew more about the users' needs, information in the dictionary could be presented in a more effective way.

In order to provide evaluation criteria for educators on one hand, and lexicographic principles for dictionary design on the other hand, an empirically-based model of dictionary effectiveness for learners at different stages of the language acquisition process is needed. At present, however, due to the research deficit in this field, there is little empirically-based knowledge that could contribute to such a model. The research deficit that is discussed here concerns published research. Certainly, the publishers of leading English learners' dictionaries such as Longman and COBUILD conduct regular market research into the use of their products, and exploit the results for improvements in their own dictionaries. It is unknown whether the market research of publishing houses mainly investigates user preferences and reference needs (as in the Longman study reported by Summers 1988), or whether their research actually uncovers how effectively learners use the dictionaries for different purposes. As the results of this research are usually not published, they do not provide guidelines for newly developed dictionaries such as the LGDaF.

The published dictionary research deals with learners' reference habits and reference needs rather than with the question whether dictionaries are effective for them. A number of research studies have investigated dictionary use by indirect methods

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such as surveys (cf. 2.6.1.). However, these methods are not capable of revealing details about the actual process of dictionary consultation. In the terminology of this thesis, 'reference needs' shall be distinguished from 'user needs', despite the fact that they have been used interchangeably previously (for instance Hartmann 1989b: 104). The term 'reference needs' describes the information learners require from their dictionaries for certain activities. Details of reference needs, for instance whether the dictionary is mainly used for reading comprehension, or whether word meanings are mainly sought rather than grammatical information, can be easily obtained by surveys. By contrast, the term 'user needs' shall be used to describe how information in dictionaries needs to be presented to users at different proficiency levels so that they can understand and make the best possible use of this information. In order to determine what user needs are, it must be investigated how learners of different proficiency levels perceive the information offered in the dictionary and what problems they encounter. User needs can only be identified through the direct observation of learners' interaction with their dictionaries during the process of looking up words. A methodological change to the direct observation of learners during dictionary use has long been called for (Hartmann 1987: 15, cf. 2.6.1). In this research, the think-aloud method was chosen to directly observe the process of dictionary consultation.

According to the reasons for ineffective dictionary use mentioned above, research must deal with two issues: Firstly, what learner-related reasons, and secondly, what dictionary-related reasons lead to effective or ineffective use by learners at different proficiency levels. Learner-related reasons concern skills and strategies learners apply when looking up words, that either help or prevent them from locating or understanding the information offered. The results of this research line can lead to improved dictionary training.

Dictionary-related reasons concern strengths or deficiencies in the way information is presented to the learners. They are relative to the proficiency level of learners. For instance, if the meanings of words are explained in a linguistically complex way, this may not constitute a deficiency when advanced learners use the dictionary, but it may for intermediate learners. If more is known about user needs at different proficiency levels, dictionary information can be adjusted. This can for instance result in the

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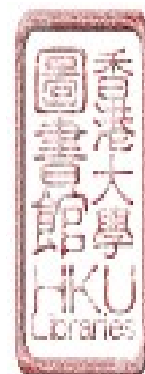
development of different monolingual dictionary types for different levels. On the other hand, research findings can help to determine a threshold level, i.e. the proficiency level that has to be reached before the monolingual dictionary can be used successfully.

The proposed model of dictionary effectiveness for learners at different proficiency levels can only be developed by observing the problems that learners at different stages have when using different dictionaries. However, without any previous research, creating such a model is too ambitious for one research study. Therefore, the present study has to be confined to one proficiency level and a limited number of dictionaries, with the aim to contribute a starting point and a component to the proposed model.

The aim of this thesis is to provide knowledge about dictionary-related reasons for their effectiveness or ineffectiveness for intermediate learners of German using the bilingual and two different types of monolingual dictionaries. For reasons explained in 1.2. and 1.3, the focus is on the intermediate proficiency level. It is implicit from the above argument that future research should evaluate a greater variety of dictionaries for their effectiveness for different proficiency levels.

Although the focus is on dictionary-related rather than learner-related reasons for successful or unsuccessful dictionary consultation, findings on learners' reference skills and strategies will be reported, too. They can provide evidence for the need of dictionary training as well as information on the kind of training needed.

1.2. Background to the research

The motivation for this research arose from a practical teaching situation. It was observed that the dictionary situation for Hong Kong Chinese intermediate learners of German is unsatisfactory. The learners in question are university students who study German semi-intensively as a major component of their degree course. At the end of the fourth semester, after approximately 500 hours of instruction, the learners reach the end of the elementary course, and take a test for a Certificate that testifies to intermediate proficiency of German (cf. 3.1.2.3.). Towards the end of the elementary course, in the learners' fourth semester, they are encouraged by their teachers to
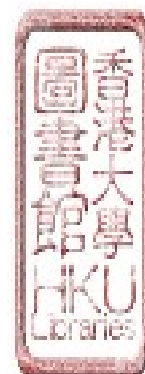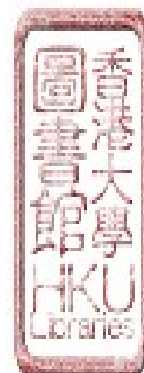
start using the monolingual dictionary. The textbook used at this stage provides a short introduction to monolingual dictionaries together with a couple of exercises how to find different types of information. This shows that the switch to monolingual dictionaries is generally expected from learners at this level. While previously learners of German had to use monolingual dictionaries for native speakers, the situation seemed to have much improved since the arrival of the first learners' dictionary, the *Langenscheidts Großwörterbuch Deutsch als Fremdsprache* (LGDaF). Recommending the LGDaF, the teachers took the label 'learners' dictionary' at face value without being aware of the linguistic difficulties this dictionary might offer.

However, it was observed over a period of several years that most intermediate learners shied away from using the monolingual learners' dictionary, claiming that they could not understand the definitions. At the same time it was observed that almost all learners used instead a German-English bilingual dictionary. This seemed rather surprising, as their mother tongue is Chinese. It would be expected that users of bilingual dictionaries would prefer the comfort of a dictionary that offers equivalents of the unknown words in their native language. If asked about their preference, the common reason given by students was that German was easier to understand through English, as the two languages are related. Despite the students' perception, it seemed obvious that the German-English dictionary is not as effective as a bilingual dictionary providing equivalents in the learners' mother tongue would be. However, although German-Chinese bilingual dictionaries are available, hardly any students would use them. Since the English proficiency of Hong Kong Chinese students can by no means be regarded as native-like (cf. 1.3.), it is doubtful whether this dictionary type offers sufficient help. In summary, the students' dictionary situation was regarded as unsatisfactory, as on one hand they did not use the monolingual dictionary, which was considered superior by their teachers, and on the other hand used a bilingual dictionary that they might not be able to fully understand.

From these observations, the following questions arose which motivated the research for this thesis:
1) Is the preference for a bilingual dictionary that explains foreign language words in English widespread among Hong Kong foreign language learners?

2) Is the German-English bilingual dictionary effective for the students? What are the difficulties experienced with that type of dictionary?

3) Is the avoidance of monolingual dictionaries also widespread among intermediate foreign language learners?

4) Is the German monolingual dictionary, the LGDaF, indeed too difficult for the students?

5) What are the difficulties the students experience with the monolingual dictionary?

6) Which one is more effective for the students, the German-English bilingual or the monolingual dictionary?

In order to find a preliminary answer to the first question, the LGDaF was more closely examined. This was done by reading randomly about fifty entries and trying to identify features in these entries that might be difficult for intermediate learners. Some features, such as difficult words or difficult sentence structures in the definitions were considered problematic for intermediate learners. However, this examination of the LGDaF was clearly an unsystematic, insufficient, and unreliable method of assessing its suitability for intermediate learners. Undoubtedly, teachers know roughly which vocabulary is known or unknown to intermediate learners. However, a word list of vocabulary known to students at this level, or a corpus with the most frequent vocabulary is needed to determine whether the LGDaF contains a lot of difficult vocabulary or whether unknown words appear too sporadically to affect learners' understanding. The same applies to the syntactic structures of the definitions. The fact that they are complex does not necessarily imply that they prevent learners from understanding the definitions.

For the development of more precise evaluation measures it was necessary to find out what actual problems intermediate learners experience when using this dictionary. As already argued in 1.1., look-up actions had to be observed, in order to assess more accurately the difficulty level of this dictionary.

It was also discussed in 1.1. that previous research does not offer information that could help to answer the above questions. Although there is an abundance of literature promoting strong opinions about what dictionary types, bilingual or monolingual, should be used by learners (cf. 2.4.1.), and how words should be

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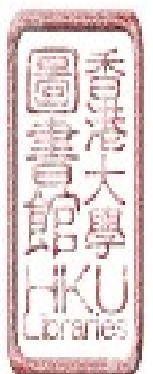
defined in learners' dictionaries (cf. 2.5.2.), empirical evidence to substantiate these opinions is virtually non-existent.

The above questions and the existing research gap motivated the research for this thesis. It was expected that the research results would be applicable to a wider context than that of intermediate learners of German in Hong Kong. For instance, difficulties with monolingual dictionaries are presumably neither restricted to one particular dictionary in one particular language, nor to a particular group of learners. The significance of this research is discussed in 1.4.

1.3. The linguistic background of Hong Kong Chinese learners

As mentioned in 1.2., many Hong Kong Chinese learners of German use German-English dictionaries. The learners' linguistic background helps to explain the preference of English over their native tongue as the explaining language in the dictionary.

Until 1998, Hong Kong Chinese secondary students were subjected to a confusing language situation at school where the official medium of instruction was English. Outside the classroom, however, most students had no exposure to English at all. Only in the early 1990s did the discussion about the effectiveness of teaching all students in English become more vocal. The Hong Kong Education Commission Report No 4 (ECR4, 1990[1]) describes the use of mixed code in the classrooms of English medium schools, where textbooks, assignments and examinations are in English, but the teachers often use Cantonese to explain and discuss the lesson material. Since it was recognised that code mixing hindered the development of high levels of proficiency in both mother tongue and second language, from 1994 on all schools were required to indicate their medium of instruction (ECR 5, 1992: 74). The Education Report of 1995 stated that the proficiency in both Chinese and English needed enhancing (ECR 6, 1995: 14), and acknowledged that "there is a widely-held perception that English standards have declined in recent years" (ibid.: 11). Of the English language teachers in Hong Kong in 1995, 43 percent were not subject trained (ibid.: 18). In view of the fact that many students were not able to cope with English-

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[1] ECR: Education Commission Report
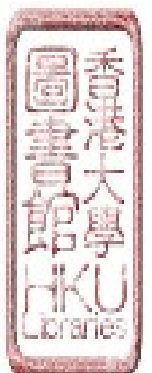
medium instruction, the Commission proposed that Chinese should be adopted as the medium of instruction, because "...teaching and learning would be generally more effective if the medium of instruction were the mother tongue" (ECR 6, 1995: 21). In 1998, the majority of secondary schools had to switch to Chinese as the medium of instruction. It was expected that consistent use of Chinese would give students a higher proficiency in their mother tongue. At the same time, the standard of English was to be enhanced through appropriate language instruction, partly by native English language teachers. Despite these measures, however, the public perception is that the standard of English has been sliding continuously during the past decade. This opinion is frequently expressed by employers and educators in Hong Kong.

The majority of students who participated in this research still experienced English medium instruction throughout their secondary school years. This explains why they are confident enough to use a German-English bilingual dictionary. Nevertheless, due to the teaching situation explained above, their English standards are usually not high enough to make this type of dictionary fully effective. A survey of the English results in the Hong Kong Advanced Level of Education Examination (HKALE/ equivalent to A levels) of 43 students[2] who participated in this research showed that 74.6 percent achieved only grade D. This suggests that these learners might not always understand the English translations in the German-English dictionary. The question whether, in view of their language background, the German-Chinese dictionary would be more effective for the learners, is not part of this research. What will be investigated, however, is whether in this situation, the students are better advised to use the monolingual dictionary rather than a not fully effective bilingual one.

1.4. Relevance of the research

As mentioned in 1.2., the results are not expected to apply only to the subjects of this research, i.e. Hong Kong and mainland Chinese intermediate learners of German. However, the results would be relevant even if they were restricted to Chinese learners, as they represent a rather large group of learners of German abroad. This fact will be explained first, before the argument deals with the importance of this type of research for the intermediate proficiency level.

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[2] The results were only available for students from Hong Kong Baptist University. For the participants from Polytechnic University, the HKALE results could not be obtained.
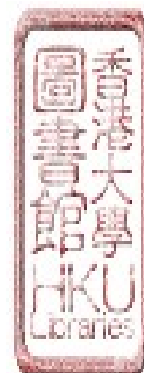
1.4.1. The relevance of investigating dictionary use by Chinese learners of German

In Hong Kong, there are approximately 800 adult learners who learn German at the Goethe Institute, and around 900 undergraduate students at four universities who study German in different course formats: either as an elective, a minor subject, or, in two universities, as a major component of their degree course. The amount of teaching hours these students receive ranges from 350 to 600 hours per course (Chong 1999: 29).

The number of students of German at tertiary level is much larger in China. According to Zhu (1996: 71), in no other country of the world has the demand for learning German grown as much as in China. This has mainly to do with the economic opening of the country, increased trade relations with Germany, and increased possibilities for Chinese citizens to study and work in Germany. There are 25 German departments at different universities (Zhao 1998: 687). In 1989 there were about 1400 students studying German as a major subject in these departments. At that time, approximately 3500 students of technical or science subjects studied German as an additional subject (Hess 1992: 379). Without exact figures being available, it is certain that the number of German learners has considerably grown since 1989. Now, in addition to the German majors at the 25 German departments, a large number of students learn German in many centres offering intensive courses around the country, about 1000 at Tongji University in Shanghai alone (Wannagat 1998: 490). These students, usually graduates from technical, business, and science courses, prepare for postgraduate studies in Germany. There is also an increasing number of professionals being sent to German intensive courses by German enterprises or Chinese organisations in order to go to Germany for further professional development (ibid.: 491). Considering the growing demand for learning German in China, and consequently the growing market for learners' dictionaries, it is relevant to investigate dictionary use by Chinese learners.

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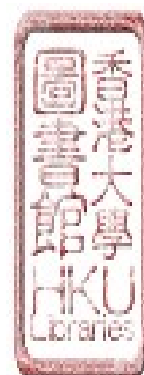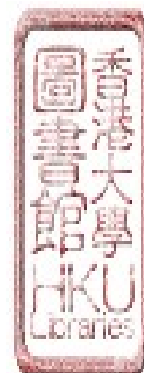
1.4.2. The relevance of investigating dictionary use by intermediate learners

The proficiency level under investigation in this research is the intermediate one. In a foreign language learning context, learners are usually regarded as intermediate between 450 to 800 hours of instruction. It is argued below that learners at this proficiency level represent the most important market for dictionary publishers.

Common to the different courses for German as a foreign language in Hong Kong and in China is the fact that they offer a rather limited amount of instruction. The learners in mainland China who study German as an additional subject at university receive only 120 to 280 hours of instruction (Dai & Zhang 1996). For students of German as a minor subject in Hong Kong, the amount of teaching hours is 350. Even in the two degree courses at Hong Kong Polytechnic University and Hong Kong Baptist University where German is a major component, the amount of language teaching is no more than approximately 600 hours (Chong 1999: 25/6). Only in the centres for intensive courses in China do learners receive approximately 800 within 9 months (Wannagat 1998: 490, cf. 3.2.2.3.).

That means that many students of German in Hong Kong and China receive formal instruction only up to the intermediate proficiency level. This learning situation is by no means specific for Chinese learners of German, but applies to learners worldwide. As Ammon (1991: 456 - 459) points out, with the decreasing importance of German studies in Europe and the US after World War I, and in other countries such as Japan after World War II, the number of German departments at universities worldwide shrank considerably. That means that the learning of German has been increasingly taking place in language courses rather than in major study programmes in German departments. Ammon takes Japan as an example to illustrate the shift in German language learning: While there used to be a smaller number of high proficiency German speakers, i.e. graduates from major programmes, the actual number of learners is far bigger nowadays, when German is learned mainly in two-year language courses. Naturally, in these two-year courses, learners do not reach the high proficiency level of their predecessors (ibid.: 459). This situation seems to be similar worldwide: In 1982/3, the numbers of German learners worldwide were estimated at 1.392 million. Of these, only 91,533 studied German as a major in a German Department, while approximately 1.3 million studied in language courses

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(ibid.: 460). Therefore, while a large number of learners of English study up to a high proficiency level (Götz & Haensch 1998: 345), the majority of German learners do not reach this level.
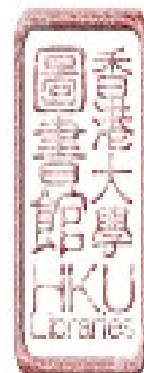
However, for many Chinese learners, and presumably for many learners in other countries, too, learning German does not finish with the end of formal instruction. As many learners either continue their studies in Germany, or wish to make use of the language at the work place, learning often continues autonomously. For the independent study of a language, effective learning tools are needed. One of the tools is the dictionary, which was described by Hartmann as "a potential 'liberator' in the trend towards individualised instruction" (1989a: 181).

The above figures have serious implications for the development of teaching materials and especially of dictionaries. Publishers of German learners' dictionaries must regard intermediate learners as their main target. However, it has never been investigated what the user needs of learners at this specific level are. Therefore it is highly pertinent to investigate the use of dictionaries by intermediate learners in order to find out what dictionary type is the most effective one for them.

1.4.3. The relevance of investigating dictionary use for reading comprehension

Reading was chosen as the activity context for this research. As surveys consistently revealed, "...reading comprehension is the dominant single activity" (Cowie 1999: 185), for which dictionaries are consulted. Therefore it is useful to investigate the effectiveness of dictionaries for this purpose. As the students participating in this research are intermediate learners, reading comprehension is the only activity in which bilingual and monolingual dictionary use could be compared. For encoding purposes, monolingual dictionary users would have to use a bilingual dictionary first in order to find the German word (Béjoint & Moulin 1987: 107). After that procedure, it is unlikely that they would go back to the monolingual dictionary to seek further information.

Furthermore, the research concentrates on the presentation of word meanings, as surveys also have shown that dictionaries are far more often consulted for word meanings than for any other information category (Cowie 1999: 178, cf. 2.6.1.).

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1.4.4. Theoretical and pedagogical relevance of the research

The theoretical implications of this research concern lexicographic principles for monolingual dictionary definitions, while the pedagogical implications concern the evaluation of the effectiveness of different dictionaries, and consequently the recommendation of suitable dictionaries to learners. The theoretical implications are discussed first.

One of the theoretical aims of this research is to contribute empirically-based principles for monolingual dictionary definitions to lexicographic theory. As already discussed in 1.1., dictionary writing has in the past not been based on evidence of user needs. Through the observation of learners trying to understand definitions, this research identifies features that help or hinder comprehension of the definitions, and consequently the meanings of the unknown words. From the findings, lexicographic principles can be derived of how a word should be defined in order to be best understood by intermediate learners.

The research aim of developing empirically-based lexicographic principles is especially relevant for German learner lexicography. The growing market of English learners' dictionaries has resulted in greater attention to learner lexicography by applied linguists. Partly as a result of applied linguists' input into the theoretical discussion about lexicographic principles, and partly through user feed-back, learners' dictionaries for English as a foreign language have become increasingly "user-driven" (Cowie 1999: 1). Dictionaries such as *Collins COBUILD English Dictionary* or the latest edition of the *Longman Dictionary of Contemporary English* exhibit many features that are regarded as user-friendly in the lexicographic literature (cf. 2.5.3.). "User-driven" was explained by Cowie as "determined...by what users require, or are thought to require" (ibid.). The second half of this explanation illustrates clearly that lexicographic discussion rather than empirical evidence of user needs determine dictionary writing. The LGDaF as the first German learners' dictionary still has to exploit user feed-back for future improvements. A careful look at its definitions, however, suggests that the theoretical discussion about user-friendly lexicographic principles was hardly taken into consideration in the design of the LGDaF. It clearly lacks several of the user-friendly features of the modern English learners' dictionaries. By identifying effective and ineffective features in definitions, this research can on the
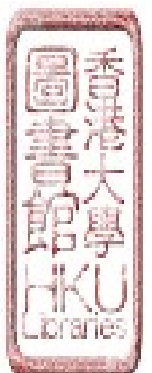
one hand substantiate the user-friendliness of certain features in the above English dictionaries with empirical evidence, and on the other hand directly suggest improvements for German learner lexicography. In other words, the results of this research can help lexicography to be "user-driven" in the true sense of the word, i.e. by user needs that were determined empirically. This way, the research helps to bridge the gap between educators' and lexicographers' perceptions of what is useful for learners, and actual user needs.

By developing lexicographic principles for user-friendly monolingual definitions, the research provides at the same time evaluation criteria for dictionaries. The development of some evaluation criteria for dictionaries is one of the pedagogical aims of this thesis. It was argued in 1.1., that an evaluation instrument is necessary to assess the quality of dictionaries and their suitability for learners, especially in view of the fact that the dictionary market has been rapidly growing. The features that have been identified as helpful or not helpful for the understanding of definitions can be used as evaluation criteria. With a checklist of these features, dictionaries can easily be examined for their effectiveness.

The main pedagogical aim of the research is to find out which dictionary can be recommended as the most effective one for intermediate learners. It is first investigated whether at this level the bilingual dictionary is still more effective, or whether the monolingual dictionary can already be recommended. Despite a lack of research evidence for the superiority of the monolingual over the bilingual dictionary (cf. 2.4.1.), in this research the position is taken that it is desirable to introduce the monolingual dictionary as early as possible in the language acquisition process, especially for reading comprehension. This position is shared by many educators (for instance: Baxter 1980, Béjoint 1981, Underhill 1985). Among several advantages, which are discussed in 2.4.1., the most convincing one is that words are explained within the same lexical and cultural system, and learners do not end up with translation equivalents which might be inadequate (Snell-Hornby 1987: 164). This argument applies especially to the Hong Kong Chinese learners who seem to prefer German-English bilingual dictionaries, and might not even always fully understand the equivalents. However, if the use of a monolingual dictionary is to be recommended to intermediate learners, it has to be an adequate one which accommodates the user
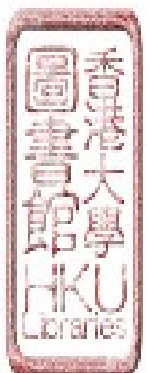
needs of learners at this proficiency level. In order to identify what such a dictionary should be like, the special focus in this thesis is on monolingual dictionary definitions and the features that facilitate or hinder the understanding of these definitions. By contrast, the features and quality of the bilingual dictionary are not analysed in much detail in this research. This is because it is only used for comparison with the monolingual dictionary in order to find evidence of the proficiency level when the latter dictionary can be used effectively.

In addition, this research offers some insights into learners' reference skills. Learner strategies and dictionary skills are revealed as a side-product of the think-aloud method. As already explained in 1.1., although the emphasis of this research is on dictionary-related rather than learner-related reasons for success and failure in dictionary consultation, the findings concerning reference skills are reported, because they can provide a basis for further research.

The findings for both the pedagogical and the theoretical areas can be combined to form the starting point for a model of dictionary effectiveness. The model will offer information on the suitability of different dictionaries for intermediate learners, provide evaluation criteria for teachers in order to assess the suitability of different dictionaries, and contribute lexicographic principles for dictionary design. Once this model has been drawn up for intermediate learners, it can be extended through future research to other proficiency levels and more dictionary types (cf. 1.1.)

In summary, two main questions are investigated in this thesis:
1) Which dictionary is most effective for intermediate learners?
2) What features make monolingual dictionary definitions effective for intermediate learners?

1.5. Outline of the research
Before the arrangement of the chapters is outlined, it shall be first explained how the different investigations in this thesis are interconnected.

As explained in 1.2., the research was motivated by the observation that the dictionary situation of Hong Kong Chinese intermediate learners of German is not

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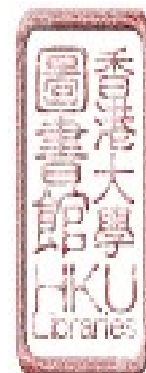
satisfactory, as both the bilingual dictionary they prefer and the monolingual dictionary available to them do not seem to be effective. This observation led to a number of questions (cf. 1.2.) which were the subject of the first three investigations.

One question was whether a) the preference for a bilingual dictionary that explains foreign language words in English and b) the avoidance of monolingual dictionaries is widespread among Hong Kong foreign language learners. This question was the first to be investigated by a survey on dictionary preference (cf. 4.1.). The results of this survey were prerequisites for the next investigation, which compared the effectiveness of the bilingual and monolingual dictionary for intermediate learners. Only after it was ascertained which bilingual dictionary type most learners use, could its effectiveness be tested.

The effectiveness of the bilingual and monolingual dictionary was compared in an experiment (cf. 4.2.). The aim of the comparison was to find out whether the dictionary type which is most preferred by the learners is indeed the most effective one for them.

The next investigation was a small-scale think-aloud study in order to find out what difficulties intermediate learners experience with both dictionary types (cf. 4.3.).
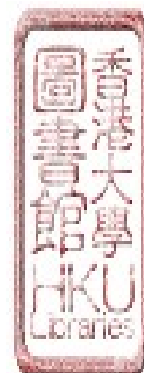
After the comparison of bilingual and monolingual dictionary, the research concentrated entirely on monolingual dictionaries. This was partly due to the results of the comparison (cf. 4.4.), and partly to the position taken in this thesis, that, at least for reading comprehension, the use of a monolingual dictionary is more desirable for intermediate learners (cf.1.4.4.). However, this presupposes that the monolingual dictionary is a suitable one, and not linguistically too demanding. Therefore, the main question motivating the next two investigations was what features should monolingual definitions have in order to be effective for intermediate learners.

These two investigations compared the effectiveness of two different definition styles. As there was, at the time of the research, only one German monolingual learners' dictionary, new definitions were developed for the target words in the comparison. In the design of the new definitions, findings from the small-scale think-aloud study were
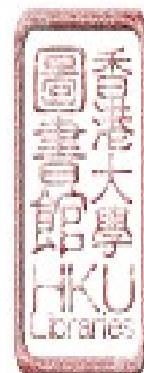
taken into consideration. The new definitions integrated features that are regarded as user-friendly in the lexicographic literature. The two monolingual definition styles were first compared in the main think-aloud study (cf. Chapter 6). From the observed reasons for successful and unsuccessful word look-ups a number of hypotheses concerning effective and ineffective features in monolingual definitions were derived. These hypotheses were tested in an experiment (cf. Chapter 7). The sequence and main research questions of the different investigations are illustrated in Figure 1.1.

Figure 1.1. Sequence and main research questions of investigations

1. **Survey on dictionary preference**
   Question: Is a) the preference for a bilingual dictionary that explains foreign language words in English and b) the avoidance of monolingual dictionaries widespread among Hong Kong foreign language learners?
   Chapter: 4.1.

Part 1: The comparison of the effectiveness of the bilingual and monolingual dictionary
1. **Experiment 1**
   Question: Which dictionary type is more effective for reading comprehension by intermediate learners of German?
   Chapter: 4.2.

2. **Small-scale think-aloud study**
   Question: Which factors cause successful and unsuccessful look-ups in both dictionary types?
   Chapter: 4.3.
   → some findings contributed to designing principles of new definitions

Part 2: The comparison of the effectiveness of different monolingual definition types
1. **Main think-aloud study**
   Questions: Which definition type is more effective for reading comprehension by intermediate learners of German?
   Which factors in the definitions are effective and which ones are ineffective?
   Chapter: 6
   → hypotheses concerning definition features

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The Figure lists the Chapters reporting on the research studies. In addition, the thesis contains the following Chapters:

Chapter 1 introduces the research background and context, discusses the signifcance of the research and provides an outline.

Chapter 2 reviews the relevant literature and provides the theoretical framework for the areas to which this research is expected to contribute: the pedagogical and the lexicographic areas.

Chapter 3 describes the methodology of the research. Complementary research methods were chosen to investigate dictionary use and effectiveness quantitatively and qualitatively.

Chapter 5 explains the development of the new definitions (NDefs) and the defining principles which are partly based on the results of the small-scale think-aloud study.

Chapter 8 reports the major findings of the research and discusses the contributions to the areas of language pedagogy, lexicography, and research methodology. The limitations of the research are discussed and suggestion for future research put forward.
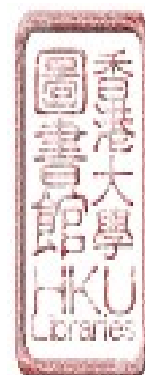
2.0. Introduction

This thesis is concerned with two main questions: 1) Which dictionary is most effective for intermediate learners?, and 2) What features make monolingual dictionary definitions effective for intermediate learners?

There are two distinct parts in this chapter. The first one deals with the theoretical background to the methodology of this thesis (2.1. – 2.3.). The second part deals with dictionaries, their suitability and use (2.4. – 2.6).

The first part of the research was concerned with the effectiveness of different dictionary types on incidental word learning and reading comprehension. Different vocabulary tests and reading comprehension tests were used to evaluate how effectively the dictionary was consulted. Therefore the first two areas of literature to be reported in this chapter are 1) the theoretical background to vocabulary learning and its evaluation, and 2) the theoretical background to reading and its evaluation. Furthermore, as the think-aloud method was used to observe dictionary use, this chapter also includes a review of 3) the literature on think-aloud methodology.

In the part on dictionaries, the areas of literature relevant for the two main questions are: 4) the pedagogical discussion literature about the suitability of different dictionary types; 5) theories of lexicographic principles and the lexicographic discussion about the suitability of different defining styles; 6) empirical research on dictionary use.

2.1. Vocabulary learning and its evaluation

The context of dictionary use in this thesis is reading. A by-product of reading is incidental vocabulary learning. One research question is which dictionary type enhances incidental vocabulary learning. For this question it is important to find out from the literature 1) what is known about incidental word learning, and 2) what is considered as word learning.

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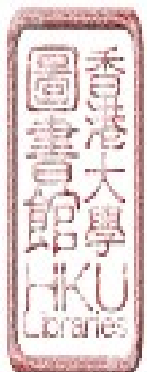
2.1.1. Incidental vocabulary learning

Words are learned incidentally from reading, when learners are not focused on word learning, but infer the meaning of unknown words in order to understand the text. Research in both first and second language acquisition shows that the majority of words are learned naturally when learners try to understand words they read or hear (Paribakht & Wesche 1999: 196). While first language learners are known to increase their vocabulary rapidly through reading, the rate of words learned from context is smaller in L2 , especially if a word is encountered only once in context (Nation & Coady 1988: 102/3, Hulstijn 1992: 122). Numerous studies have aimed at finding out which methods can enhance incidental word learning, be it increasing cues in the context, increasing the occurrence of target words in the context, or pre-teaching the vocabulary of texts (Paribakht & Wesche 1997: 174 – 177).

Word learning is referred to as 'incidental' not only when it occurs through guessing from context, but also when reference materials such as glossaries or dictionaries are used. The main condition for incidental word learning is its unintentionality, or as Hulstijn, Hollander & Greinadus define it, "...the accidental learning of information without the intention of remembering that information" (1996: 327). An effective tool to enhance learning words while reading is the dictionary, although its use was long discouraged by educators in favour of inferencing words from context. Knight (1994) investigated the questions whether foreign language students indeed learn a significant amount of new words while reading, and whether dictionary use facilitates reading comprehension and incidental word learning. She found that the number of words learned incidentally was small, but significant (ibid.: 291), and that the use of the bilingual dictionary had a significant main effect on incidental word learning (ibid.: 292, for a thorough review of Knight's study cf. 2.6.2.1.). In Hulstijn, Hollander & Greinadus' study, the use of the bilingual dictionary resulted in a higher incidental learning rate than the use of marginal glosses or than guessing from context (1996: 334). Generally, the rate of words learned incidentally after only one exposure in context can be expected to be under 20 percent. This applies to L1 reading (Nagy, Herman and Anderson 1985) as well as to second and foreign language reading

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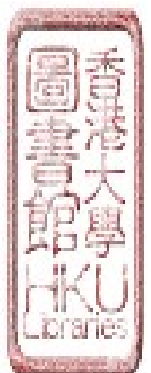
(Coady 1993: 18, Horst, Cobb & Meara 1998:209[3]). Some researchers report higher rates of incidental word learning (Chun & Plass 1996), while others found that learners are often unable to understand and learn word meanings from context (Schatz & Scott Baldwin 1986).

However, as Knight (1994: 286) asserts, many findings are confounded because the research was not conducted with natural texts, but with texts in which contextual clues, frequency of word occurrence, or the target words themselves were manipulated. As there is also little consistency among different research designs as to how word learning was measured, incidental word learning by second and foreign language learners cannot be described conclusively. This fact had implications for the research methodology in this thesis, as will be explained in more detail in 3.1.2.: It was considered important to avoid text and target word manipulation. Also, instead of a new research design, Knight's study was partly replicated in order to offer some comparability of results and thus contribute to a more generalisable description of incidental word learning.

2.1.2. When is a word learned?

Before word learning can be assessed, it must be determined what level of word knowledge is required.

Knight regarded words as learned when subjects could supply their definition and identify the right meaning from a multiple choice test (1994: 288). However, the level of learning required to fulfil these tasks represents only the first step in the acquisition process, as word knowledge comprises many more aspects. Comprehensive models of word knowledge were provided by Richards (1976: 83) and Nation (1990: 31). Richards describes seven different criteria of word knowledge, while Nation uses four categories. Each category contains two subcategories and four questions concerning receptive and productive knowledge. As can be seen in Table 2.1., the elements of word knowledge proposed by Richards and Nation are the same, despite the different order.

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[3] The authors provide an overview of replications of the Clockword Orange experiment. Five of the six replications of the well known experiment by Saragi, Nation & Meister (1978) yielded incidental word learning rates of under 9 percent.
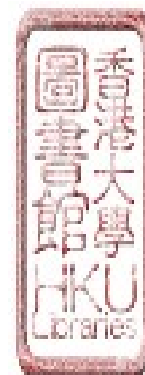
Table 2.1. Word knowledge models by Richards and Nation

Nation 1990[4]	Richards 1976
1. Form 　　Spoken form 　　Written form	No. 4: Knowing a word entails knowledge of the underlying form of a word and the derivations that can be made from it.
2. Position 　　Grammatical patterns 　　Collocations	No. 3: Knowing a word means knowing the syntactic behavior associated with the word.
3. Function 　　Frequency 　　Appropriateness	No. 1: Knowing a word means knowing the degree of probability of encountering that word in speech or print. No. 2: Knowing a word implies knowing the limitations imposed on the use of the word according to variations of function and situation.
4. Meaning 　　Concept 　　Associations	No. 6: Knowing a word means knowing the semantic value of the word. No. 7: Knowing a word means knowing many of the different meanings associated with the word. No. 5: Knowing a word entails knowledge of the network of associations between that word and other words in the language.

Faerch, Haastrup & Phillipson regard word learning as a continuum between "making sense" of a word and "knowing" a word. In their view, knowing a word "is a matter of degree rather than a question of either/or" (1984: 99 – 100).

Nation (1990: 44) considers the number of exposures necessary to learn a word as between five and sixteen times. Schmitt describes vocabulary acquisition as incremental. After initial exposure, a learner may know one of the word's possible meanings, along with an impression of its form. If the learner meets the word repeatedly, understanding of word form and meaning are strengthened, and other word knowledge aspects are gradually added. Eventually, after repeated contacts with the word, the learner may control the collocational and stylistic aspects (1995: 87).

Knight's subjects encountered the target words once in the reading text, and afterwards it was tested whether these words were learned incidentally. It is obvious from the above models that the 'learning' described in Knight's study represents only the initial stages in the continuum of word learning. The subjects acquired only one

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[4] The questions reflecting the dichotomy of receptive and productive use are not reported, because they are not directly relevant here.

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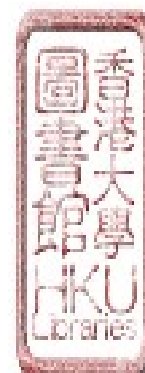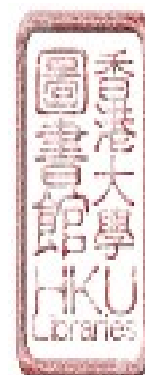
element of word knowledge, i.e. meaning, and this element is also only partially learned because the reading context presents only one of the various meanings a word can have. The subjects concerned are obviously only at the degree of "making sense" of a word.

However, no deeper level of word learning can be expected through incidental word learning from reading, when learners are exposed to words only once or twice, and when the focus is not on vocabulary learning.

2.1.3. What makes a word easy or difficult to learn?

In incidental word learning, it depends to a considerable extent on the context whether the meaning of an unknown word can be understood and consequently learned. Research has identified textual features such as a word's frequency in a given text, its word class, saliency and usefulness for understanding the text, as well as semantic and other linguistic clues in the surrounding text, as facilitating or discouraging word learning from texts (Paribakht & Wesche 1999:199). Features of the word itself also influence understanding. Features that affect the ease of learning words are phonological ones such as pronounceability, and orthographic ones such as a different script or word length, the part of speech, word frequency, and semantic features (Laufer 1990, Ellis & Beaton 1995).

Relevant to this thesis is the question of how the semantic features of words can affect their understanding and, as a result, their learning. Most semantic problems are usually encountered with those content words that represent abstract concepts, while concrete words carry with them an image and can be more easily pictured (Nattinger 1988: 64). Research has shown that the greater the "imageability of concept", i.e. the degree to which a word evokes a mental image, the more likely it will be understood and remembered (Ellis & Beaton 1995: 114). The imageability hypothesis goes back to the work of Paivio (1986, cited in Hulstijn 1997: 213), who described the semantic memory as consisting of two interconnected subsystems, one for verbal concepts and one for visual concepts. Concrete words are associated with both subsystems and are therefore more easily remembered than abstract words which are only associated with the verbal subsystem. However, as Laufer (1990: 300) and Ellis & Beaton (1995: 112/3) point out, even concrete words are not easily learned, if there is no semantic

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equivalence between the native and the target language. Semantic fields of concrete terms such as colours, temperatures, kinship, etc., often differ between languages (Carter & McCarthy 1988: 20) and create difficulties, as the 1:1 mapping of the word in the native and foreign language is not possible.

In this thesis it is investigated which dictionary definitions describe the semantic features adequately, so that the words can be understood and learned. An important issue is whether the definition can evoke a mental image and thus make the concept of the word imageable. This issue will be discussed in more detail in 5.2.2.2.1. and 6.2.1.3.

2.2. Reading and its evaluation

Another research question in this thesis is which dictionary type is most effective for reading comprehension. The assessment of reading comprehension depends on the understanding of what reading is. In the 1960s reading was regarded as a process of picking up information from text in a bottom-up, word-by word manner (Grabe 1991:376/7). Reading was viewed as text-based, with the text being characterised by its linguistic elements, i.e. semantics and syntax (Bernhardt 1991:15). Thus, the text would provide learners with some factual information, new vocabulary, and would reinforce grammar. This kind of knowledge gained through reading could be adequately tested with multiple-choice questions, cloze tests or direct questions about the content. However, by the mid – to late 1970s, psycholinguistic models of reading were developed, in which reading was seen as an interactive process between reader and text. In this view, not only does textual information contribute to reading comprehension, but also the reader's background knowledge and conceptual abilities which allow building hypotheses about the text and top-down processing (Grabe: ibid.).

Bernhardt proposes a synthesis of previous reading models by viewing reading as a sociocognitive process. In her constructive model, different text features and reader features interact and influence reading. In the text, in addition to linguistic features, there are its structure, its pragmatic nature, its intentionality, its content and its topic. On the side of the reader, there are different social and knowledge backgrounds which influence the perception of the text (1991: 15/6). The individual reader's
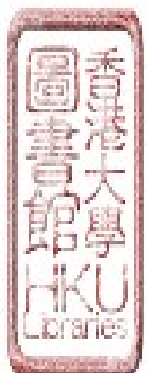
background knowledge is an important factor in reading comprehension. Research on the reading process indicates that
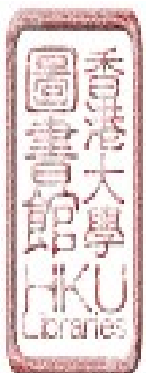
> "...reading comprehension is constructive in nature and that it entails an active process of relating new or incoming information to information already stored in memory." (ibid. 191)

The complex process of reading involving many different factors cannot be assessed by tests that measure single factors. In order to achieve "construct validity", the assessment method must

> "...incorporate a sense of the individual reader – not a 'generic' reader; must include an adequate description of textual features, must provide an understanding of *how* and *what* readers select for processing; and finally, must indicate how culturally adequate the reconstruction of a text is" (ibid. 193).

The conventional methods of assessing reading comprehension, i.e. cloze, multiple choice, and direct content questions, are not adequate, as they do not measure actual reading comprehension processes, but mainly lexical and syntactic knowledge. The cloze test has drawn the most criticism as a measure of reading comprehension. The fact that the reader is able to fill in a gap in a clause does not indicate whether he understands the concepts of the text. The cloze items are often based on cues from the immediate, i.e. sentence environment, and do not reflect understanding of the whole text (Wolf 1993: 475). It focuses the reader's attention on single words and does not enhance global understanding of the text (Bernhardt 1991: 198). In Bernhardt's opinion, the need for the learner to focus on "precise grammatical relationships" in order to fill in the deleted words counteracts the principles of communicative language teaching (Bernhardt 1983a: 28).

The most popular method of assessing reading comprehension is by means of multiple choice and True/False questions. These tests are easy to score, but to develop questions which are passage dependent is difficult. As Bernhardt points out, "many tests, even formally and professionally developed ones, fall into the passage independence category" (ibid.). This means that the questions can be answered correctly without reading the passage, by just applying common sense, by extracting only minimal and superficial information from the reading text, or by receiving clues from other questions. Wolf raises the question whether a multiple choice test is

reflective of the constructive process of reading, or whether it is "assessing solely
...test-taking strategies" (1993: 475).

In the testing of reading in a foreign language when the learners' vocabularies are still
limited, the designers of tests are often forced to repeat sections from the passage,
so that multiple choice tests "can become merely a word recognition and matching
exercise" (Bernhardt 1991: 199).

Neither are direct content questions regarded as reliable indicators of reading
comprehension. They either delimit the answer, for instance by eliciting one-word
answers and facts from the text to be reiterated, or the questions themselves provide
additional information about the text. In both cases, global or deeper understanding of
the text is not being demonstrated by the test-takers (Wolf 1993: 474). All the tests
discussed above have the disadvantage that they affect how readers interact with the
text by directing attention to certain parts of the text.

The immediate recall measure is widely regarded as the most valid assessment
technique of comprehension, and is much used in reading research (Bernhardt
1983b, Allen et al. 1988: 170, Bernhardt & Berkemeyer 1988, Lee & Ballman 1987,
Knight 1994). It quantifies the amount of a text learners are able to recall (Lee 1986:
201). The learners read the text as often as they like. When they feel they understood
the text as best as they can, they surrender it and write down immediately afterwards
everything they remember.

The immediate recall protocol reflects text-reader interaction, and "provides a purer
measure of comprehension, uncomplicated by linguistic performance and tester
interference" (Bernhardt 1991: 200). While it does not, like the other tests, influence
the readers' understanding of the text, the recall protocol reveals which parts or
whether the whole text was understood and "reflects process rather than product"
(Bernhardt 1993: 31/2). It can give information about the strategies used by the
reader, the background knowledge he applies to the text, and where lexical or
grammatical problems prevented understanding.

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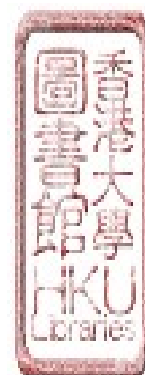
Although the recall test is certainly "easy to construct and administer", Bernhardt's claim that it "offers a relatively easy evaluation procedure" (ibid.: 32) raises doubts. Obviously, scoring a coherent text is more complicated than scoring individual answers to questions. The analysis of the recall data will be discussed in 3.2.1.5.2.

When using the immediate recall protocol as the measure for reading comprehension, the language used for the protocol has to be considered. While some researchers asked their subjects to use the target language (Carell 1983, 1984), more commonly the native language of subjects is used for the recall protocols (Bernhardt 1983, Lee & Ballman 1987, Knight 1994). Lee tested whether the use of the native language yielded better recall results, and concluded:

> "Since a main effect was found for language of recall, using a native-language recall task yields more evidence of comprehension, which might be masked by a target-language recall task" (1986: 207/8).

Because the recall protocol has been convincingly described as a test measure of greater validity than other test measures, it was chosen for the assessment of reading comprehension in this study (cf. 3.1.2.2.4.).

2.3. The think-aloud methodology

In order to gain insights in the process of dictionary consultation, think-aloud protocols were used in this thesis. Other methodologies such as questionnaires and interviews are not sufficient to inform researchers about the interaction between the user and his dictionary. According to Hatherall, the observation of users is also unsatisfactory, because it cannot be expected "that all the information the researcher needs would be retrievable via the visual medium" (1984: 184). Only access to the learners' thought during the process of looking up words in the dictionary can help to find out what problems they encounter, and what strategies they use. Zöfgen (1994: 46) believes that research cannot proceed without introspection, and possibly retrospection.

While a large number of introspective studies have been carried out on reading comprehension (for a short description of 38 primary studies cf. Pressley & Afflerbach 1995: 18 – 21), the method was only used twice for the observation of dictionary use. Neubach & Cohen (1988) and Müllich (1990) used think-aloud protocols for

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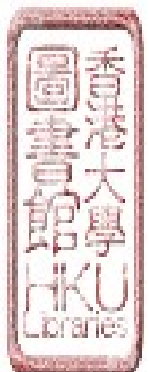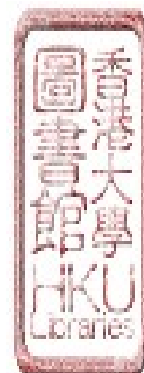
investigating the look-up behaviour of learners of different proficiency levels. Unfortunately, both studies do not provide a methodological account of the procedure and the analysis of the protocols (cf. 2.6.2.2.).

Thinking aloud, also referred to as concurrent verbal protocols, requires subjects to verbalise their thoughts while undertaking a language task. According to Cohen, think-aloud is the least structured introspective method, in which subjects reveal their thoughts "unedited and unanalyzed", without focusing on their own specific strategies and behaviours (1987: 84). Think-aloud data are collected with a "low degree of elicitation, and with little external intervention by the investigator" (ibid.: 88).

The validity of this method has long been under discussion. One continuing concern is obviously that the observers' paradox takes effect in the think-aloud sessions, and that subjects do not report unedited thoughts, but start observing their own behaviours, reporting what they think is expected from them (Stratman & Hamp-Lyons 1994: 95). A frequent criticism is that this self-observation changes cognitive processing (Krings 1987: 163). Another concern is the timing of the verbal reports. According to Ericsson & Simon's information processing model (1984: 10)[5], "heeded" information is kept in the short-term memory and directly accessible for further processing, i.e. verbalisation. This makes the think-aloud method more capable of observing ongoing processes than retrospection, in which information processed earlier must be retrieved from long-term memory. However, because of the limited capacity of the short-term memory, the immediacy of the reports is critical (Pressley & Afflerbach 1995: 3).

As a further methodological concern, the ability of subjects to report their thoughts was under doubt for a long time. Research by Ericsson and Simon (1984/1993, cited in Pressley & Afflerbach 1995: 7 - 13) led to the conclusion that people are able to self-report on the contents on their short-term memory. Ericsson & Simon developed a set of guidelines to ensure the validity of the method. Some concern the instructions given to subjects before the task:

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[5] The cognitive psychologists' book, which was revised in 1993, is the standard reference for verbal protocol research.

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1) The most valid verbal reports are of exactly what is heeded in short-term memory. The think-aloud data should reflect exactly what is being thought about. Naturally, the thought processes are not always complete or coherent. The instructions should make it clear that the subjects should not try to make their self-reports more coherent or categorise them.

2) The directions given to subjects as well as the testing situation should discourage subjects from providing descriptions or explanations of their processing. The subjects should not feel that they have to interpret their cognitive processes. Research has found that it affects subsequent processing if subjects report why they are carrying out a process.

3) The directions to think aloud can direct participants to report a specific type of information that they have in their working memory. If the researcher is interested in a certain phenomenon, the instructions can specify that the participants report mainly on the phenomenon. However, as Pressley & Afflerbach (ibid.: 11) point out, such instructions may bias processing, and therefore Ericsson and Simon's recommendation has to be treated with caution.

4) Ericsson & Simon (1987: 37) also recommend a standardised "warm-up" procedure in order to establish that all subjects in a study use the same verbal report procedure.

5) A common problem in think-aloud sessions is that the subjects frequently fall silent and have to be reminded by the researcher to verbalise what they think. These reminders should interfere as little as possible with the processing of thought. For instance, the reminder 'Keep talking' interferes less than the question 'What are you thinking about' , which is "more likely to elicit a self-observation process or produce an other-oriented description as a response" (ibid.).

Pressley & Afflerbach who analysed 38 primary think-aloud studies of reading conclude that "verbal self-reporting remains an underdeveloped methodology" (1995: 119). They discovered a lack of specificity in many studies and demand detailed methodological descriptions

1) of the characteristics of the subjects;

2) of the characteristics of the texts, especially in relation to the readers;

3) of the directions given to subjects, as well as the reminders given to subjects during reading;
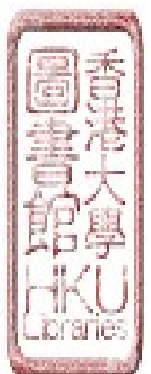
4) of the practice conducted with subjects before the think-aloud task;

5) of the interactions between subjects and researchers during the think-aloud session. It is important to know how the researcher determined when an intervention was necessary (ibid.: 120 – 122).

Another concern about the think-aloud method is its analysis. Pressley & Afflerbach notice that the means used to develop categories and to code think-aloud protocols are often incompletely reported. There must be a clear account of the categories, and as many as possible examples from the actual reader protocols. The interrater reliability in coding the protocols must be stated (ibid.: 122). It must also be explained how the examples are chosen and how representative they are (ibid.: 123).

For the validity of think-aloud data Pressley & Afflerbach recommend triangulation, i.e. to relate the think aloud data to performance indicators, such as test results, or reading speed and efficiency (ibid.: 124).

As shall be explained in 3.1.3.4., Ericsson & Simon's recommendations as well as Pressley & Afflerbach's methodological suggestions were observed carefully in the design and procedure of the think-aloud studies in this thesis in order to achieve validity of the data and reliability of the results.

While the previous sections provided the conceptual framework for the methodology employed in this thesis, the following part is concerned with pedagogical views on the suitability of different dictionaries, lexicographic theory, as well as dictionary use.

2.4. The pedagogical discussion literature on dictionary use

This section deals with the pedagogical debate on whether learners should use bilingual or monolingual dictionaries. In addition, an overview of the cognitive tasks and strategies required for dictionary consultation will be given. Although dictionary strategies per se are not the main concern of this research, the topic will be included for two reasons:

1) educators have strong views about the training of strategies and general dictionary skills, and

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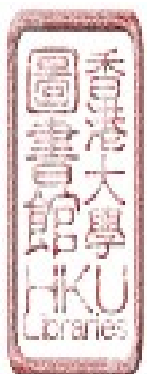
2) a number of strategies were revealed in the qualitative studies and will be reported in Chapters 4 and 6.

2.4.1. The discussion about bilingual or monolingual dictionaries

After the emergence of the functional-communicative approach to language teaching in the 1970s, language teachers discouraged the use of dictionaries altogether in the belief that they would reinforce the learners' tendency to learn words in isolation. The prevailing view was that words should only be decoded by contextual clues. This way learners would also be encouraged to think in the target language without the distraction of equivalents provided in their native language. However, with the increased interest in the teaching and learning of vocabulary that arose in the 1980s, there was a greater awareness of the fact that inferring word meanings from context is often impossible for learners and that the dictionary had to be given a more prominent role in language acquisition (Summers 1988: 111/2).

The debate then turned to the best suitable dictionary type for learners, and many language educators give preference to the monolingual dictionary over the bilingual. Teachers' preference for monolingual dictionaries can be explained by the requirements of the functional-communicative method:

> "Monolingual dictionaries seem to be indispensable within the framework of all 'direct' methodologies, which equate foreign language acquisition with thinking in the foreign language" (Piotrowski 1989: 72).

However, as Piotrowski also points out, there is no psycholinguistic evidence which offers arguments for or against mono- or bilingual dictionaries (ibid.).

The same argument which was previously expounded for contextual guessing is commonly used for preferring the monolingual dictionary: learners should think in the target language without switching back to equivalents in their mother tongue. The use of monolingual dictionaries is believed to enhance and accelerate language acquisition (Underhill 1985). Through monolingual definitions, learners develop their ability to paraphrase or define, an important skill especially when the learners' vocabulary is still rather limited. Baxter (1980) asserts that prolonged dependency on bilingual dictionaries, on the other hand, tends to retard the development of proficiency in the second language.

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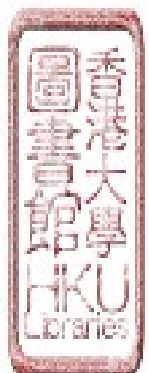
In Béjoint & Moulin's view (1987: 104), monolingual dictionaries have the merit of introducing the user directly to the lexical system of the target language, while the bilingual dictionary is suitable for quick consultation. Snell-Hornby describes the advantage of monolingual dictionaries for advanced learners as follows:

> "..experience in advanced language teaching and in translation teaching shows that the learner can understand a foreign language text better if unknown words are explained in terms of their own language system and against their own sociocultural background without being rendered as foreign language equivalents which are often inadequate and contrived" (1987: 164).

It is widely accepted that monolingual learners' dictionaries offer more information about the grammatical behaviour, idioms, collocations, and semantic or stylistic restrictions of words (Béjoint 1981: 207, MacFarquhar & Richards 1983: 112).

The following arguments have been expressed against monolingual dictionaries (Thompson 1987: 283 - 284):

1) If learners use it for production purposes, they cannot find words they are looking for, because they do not know them. If, however, they use it for comprehension, much of the information provided, such as the grammatical behaviour of words, is not necessary.

2) The definitions may be too difficult for learners to understand.

3) Circularity can never be completely avoided.

4) Even if the dictionary has a restricted defining vocabulary, the grammatical structures can be complex.

5) Learners will not benefit from the exposure to the target language in the dictionary, because for the definitions a lexicographic metalanguage is used. This language represents a special register which does not follow the rules of the normal language (see also Hanks 1987; Rundell 1988; Piotrowski 1989).

6) Learners often pass over important information such as semantic restrictions of words, because there are not able to understand the basic content of words.

There are only a few advocates of the bilingual dictionary, though not of the "traditional" one which is described by Snell-Hornby as "the ...general-purpose concise or pocket dictionary, which is ironically the type of reference book least suitable as an aid to language learning" (1987: 159). This type of dictionary

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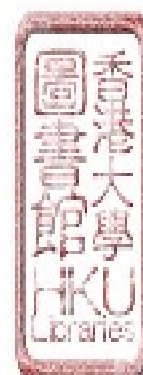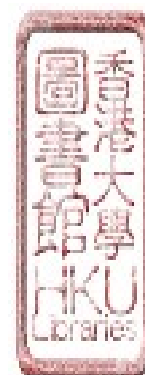
resembles word lists by simply offering translation equivalents on the assumption that there is a one-to-one equivalence between two languages. Thompson argues for the use of bilingual dictionaries by explaining why intermediate learners in particular cannot cope with monolingual ones. However, in the same vein as Snell-Hornby, he warns of the dictionary which is widely used among learners, "the least satisfactory kind of cheap, pocket bilingual dictionary", and proposes a new type of bilingual learners' dictionary, which includes the same range of information as a monolingual dictionary, i.e. a bilingualised version (1987: 284/5). Bilingualised dictionaries are indeed being developed at an increasing rate: According to Hartmann (1994: 243), more than fifty bilingualised dictionaries for a variety of languages have been published since the early 1980s. Thompson also wants the mode of the bilingual dictionary to be unidirectional, i.e. for speakers of one language, instead of the current mode where one part is designed for comprehension by native speakers of the one language, while the other is designed for native speakers of the other language (1987: 284/5). Snell-Hornby (1987) advocates the need for a differentiation into 'active' and 'passive' types of bilingual dictionaries with specific information for either language production or comprehension.

While Thompson and Snell-Hornby favour the bilingual dictionary on the basis that the monolingual one would be too difficult at the intermediate level of language learning, and mainly engage in describing what a bilingual dictionary should be like, Tomaszczyk (1983) comes up with a different argument: he regards the bilingual dictionary as a contrastive tool when learners experience culture-specific words and differences in the semantic structure of so-called equivalents in the two languages. These differences can be better explained to learners by contrasting the L1 and L2 items.

The most common arguments against traditional bilingual dictionaries are:
1) that they reinforce learners' inclination to translate from and into the native language;
2) that therefore they prevent them from thinking directly in the foreign language;
3) that they encourage learners to look for one-to-one equivalents even when the foreign language has no equivalent for the lexical item in question (Bejoint & Moulin 1987: 100 – 101; Snell-Hornby 1987: 159 - 160);

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4) that by looking for translation equivalents the learners do not develop their paraphrasing or defining skills (Baxter 1980: 329/330);

5) that the learners find little information about the semantic network or syntactic behaviour of words in bilingual dictionaries (Thompson 1987: 282).

Nevertheless, there is a clear discrepancy between what educators regard as the better dictionary type and what learners prefer to use. Laufer & Kimmel (1997) distinguish between usefulness and usability for dictionaries. Usefulness is the extent to which a dictionary provides the necessary information to users, while usability is defined as the willingness of the users to consult the dictionary in question and their satisfaction with it. Survey studies confirm that dictionary usefulness and usability do not necessarily correspond. Some studies reveal that although learners often consider the monolingual dictionary as more useful in providing adequate information and for language learning, they prefer to use the bilingual one (Baxter 1980; Atkins & Knowles 1990).

Most of the literature published on the greater effectiveness of either the monolingual or bilingual dictionary is of the intuitive type. Very little empirical research has been done on this topic. Béjoint & Moulin point out that

> "...the superiority of the monolingual over the bilingual dictionary is not as obvious as many people think....no researcher has yet tried to establish how each dictionary type 'works', that is, how it helps the user solve specific problems of expression or comprehension, and what part it plays in the acquisition of lexical competence" (1987: 99 - 100).

Another argument brought forward by Béjoint (1988: 142) is that psycholinguistic research has so far not been able to establish where semantic information about L2 words is stored in the brain of bilingual subjects. It is unknown whether L2 words form a second conceptual framework which is stored in a different place and accessed separately, or whether there is only one conceptual framework for two languages, although there is, according to Aitchison, "increasing evidence for a single integrated network" (1994: 236). If there are two frameworks, the bilingual dictionary would be more helpful, as "translation equivalents might speed recall by providing a 'path' routed through the learner's highly efficient L1 lexicon" (McCarthy 1990: 36). On the other hand, translation equivalents "...might hinder the development of the internal organization of an efficient and separate L2 lexicon" (ibid.). If there is only one

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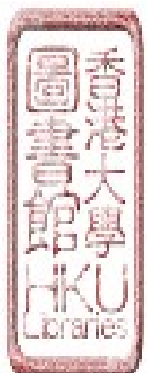
framework, Béjoint concludes, "no sweeping generalizations about, for example, the necessity to force learners to think in L2" should be made. As a consequence, recommending the monolingual dictionary because it supposedly fosters thinking in the L2 "is based on wishful thinking more than on really scientific bases" (1988: 142).

While more conclusive results of research into the organisation of the mental lexicon might contradict some of the arguments for the monolingual dictionary, there is one psycholinguistic theory which can support the preference for the monolingual dictionary. The depth of processing theory (Craik & Tulving 1975) assumes that information which has been obtained through deeper cognitive processing will be retained better. In relation to vocabulary learning this means that the more attention and mental effort is involved in understanding the meaning of a word, the better it will be remembered. In relation to dictionary consultation, it is obviously the monolingual dictionary in which the understanding of word meanings requires more mental effort than the bilingual dictionary, in which a translation of words is just given. The deeper cognitive processing which takes place when the learner works out the meaning of a word from a monolingual definition may result in better retention. Interestingly, the depth of processing theory has not been applied to the use of different dictionaries, but is usually referred to when learning word meanings from context is described as superior to the use of word lists or dictionaries (Stevick 1976: 30, cited in Nattinger 1988: 67, Hulstijn 1992: 113, Hulstijn 1997:203).

Conspicuously absent from the discussion about the efficiency of the two dictionary types is the question of at what proficiency level is it possible for learners to switch to a monolingual dictionary. There is no empirical research to help with this question either (Hartmann 1989c: 220).

Recommendations to learners of different proficiency levels about the most suitable dictionary can only be justified after empirical evidence concerning the following questions has been obtained: How do learners actually process the information offered by dictionaries? How do they read dictionary entries and how much do they understand? Which problems do they experience? Does, for instance, the monolingual definition really help the learner to understand the word within the system of the target language, or "..does the L2 definition not merely send the learner
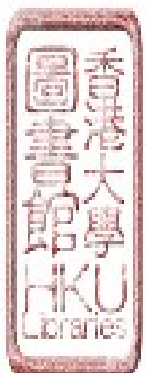
'back' to an item in the L1 that most closely corresponds to the referent described?" (Béjoint & Moulin 1987: 103). In order to answer these questions, process-oriented investigations of learners' look-up actions are needed. Although the need for such research is widely accepted (for instance: Béjoint 1988: 144; Hartmann 1988: 231, 1989a: 184; Tickoo 1989: 200), only a few detailed investigations into dictionary use have been conducted so far.

It is surprising that so far recommendations about dictionaries are based on pedagogical intuitions rather than on empirical evidence. Researchers could for instance have compared groups of learners using different dictionary types in order to establish quantitatively which type leads to greater success in different language tasks, and at different stages of language learning. This way their claims concerning the superiority of a certain dictionary could have been substantiated. As shall be discussed in 2.6.2.1., only a few studies compare the effectiveness of different dictionary types, and they do not provide answers concerning the suitability of different dictionaries for intermediate learners. As far as process-oriented research is concerned, it is possibly due to methodological reasons that hardly any has been conducted. As the interaction between the user and the dictionary usually takes place in silence and privately, it seems difficult to reveal details about the process of looking up. The aim of this thesis is to find empirical evidence as a basis for dictionary recommendations by investigating quantitatively the effectiveness of different dictionary types, and by investigating through thinking aloud why they are effective or not. Especially the qualitative investigation into the process of dictionary consultation may provide some knowledge in a so far unknown domain.

2.4.2. Cognitive processes and strategies involved in dictionary consultation

Dictionary consultation involves "a series of complex cognitive processes" (Neubach & Cohen 1988: 2) which require certain strategies. How successfully learners read and process dictionary information depends partly on their use of appropriate dictionary strategies.

The first cognitive task is the decision whether or not a word has to be looked up or whether it can be inferred from the context (ibid.). Scholfield points out that looking up words is not, in comparison to guessing from context, "a mechanical, last resort
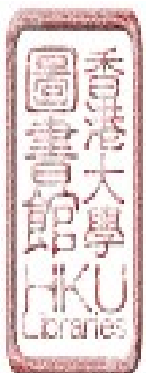
activity", but "...requires that certain skills be applied in a systematic way; it requires a strategy" (1982: 185). This "strategy", which consists of several strategies rather than just one, he divides into seven steps (pp. 186 – 193):

1) Locating the unknown word(s) or phrases. Although this sounds rather obvious, there are cases when this procedure is not that simple. The learner might not understand a seemingly known word in an idiomatic phrase. Locating it might involve several look-up actions.

2) Finding the citation form of inflected forms. In learners' dictionaries, irregular forms are usually entered alphabetically with reference to their citation form. However, as some results of this thesis will show, finding the citation form is not always straightforward.

3) Searching for the unknown item in the alphabetic list. This might not be regarded as a real skill or strategy, but it can be if the alphabetic system is different from the native language. For instance, it requires some knowledge of the German dictionary to find the place of words containing 'Umlaute'[6] in the alphabetical order.

4) Searching further, if at least one main entry cannot be found for the unknown item. The following procedures are suggested: a) looking up each main entry, if the unknown item seems to be a phrase, idiom, or compound word; b) looking for the stem, if the unknown item seems to have a suffix; c) scanning nearby entries, if the unknown item seems to be an irregularly inflected form or a spelling variant; d) search in the addendum, if there is one. As Scholfield demonstrates with some examples, the conventions of listing items may differ from dictionary to dictionary.

5) Reducing the multiple senses in entries of polysemous words by elimination. The learner should scan all senses in the entry in order to ascertain that he really finds the most appropriate one.

6) Understanding the definition and integrating it into the context where the unknown item was met. Understanding itself can involve further steps, for instance looking up unknown words in the definition itself. Once a definition is understood, it may require several adjustments before it can be integrated in the context. Often, a dictionary definition cannot be straightforwardly substituted for the unknown item in the source text.

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[6] Such as 'ä, ö, ü'.
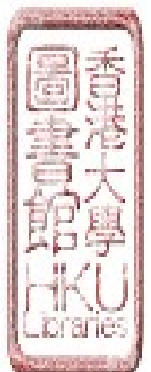
7) Inferring the appropriate sense from the senses listed, in case none of these senses fits. Seeking further contextual clues, if more than one sense fits. These strategies which, according to Scholfield, "require sophisticated skills of inference" (p. 193), are in fact called for rather frequently, as no dictionary can provide enough senses to cater for the variety of possible contexts. In this research alone, there were several target words for which the dictionary entry did not contain the suitable sense for the context (cf. 6.3.3.4.).

Although Scholfield refers to the use of monolingual dictionaries, all steps with the exception of No. 6 apply to the use of bilingual dictionaries, too. His analysis of the strategies involved in looking up words is the only one which describes in such a perceptive and detailed way the possible problems and obstacles learners can experience in the process. Neubach & Cohen point out that dictionary writers are not aware of these potential obstacles and presuppose far better dictionary skills by the users (1988: 1, 14).

Scholfield and Neubach & Cohen described strategies for dictionary use during reading. As process-oriented studies have revealed, many learners do not master those strategies in particular, which require more sophisticated rather than technical skills, for instance No. 5 – 7 (cf. 2.6.2.2.). Also, learners do not make use of the wealth of grammatical and semantic information usually offered in learners' dictionaries. This has been revealed by a number of questionnaire studies, which will be reported in 2.6.1.

These behaviours clearly point to the fact that dictionary users need more dictionary training. Many learners are not able to use a dictionary's information, mainly due to a lack of knowledge about it (Herbst & Stein 1987: 115). Tickoo complains that not even teachers are informed about the advances in learners' lexicography:

> "...the sophistication that LDs (learners' dictionaries) have gained is not matched by that of their users; if anything the gap between the two is widening. A majority of language teachers in schools are unaware of the changes taking place" (1989: xi).

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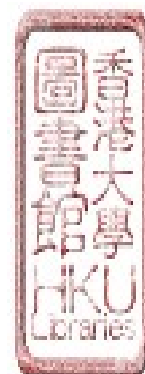
Strevens (1987: 76 - 78) also claims that the majority of learners do not make use of the information offered, and that the effectiveness of the dictionary is dependent on the teacher and his /her instructions.

However, there is a '"widespread traditional neglect of dictionary education" in German schools and universities (Herbst & Stein 1987: 118). Neither are, according to Summers (1988:114), dictionary skills commonly trained in ELT, because teachers assume that the learners have already received such training for the mother tongue. Cowie points out that, although until quite recently, failure to use dictionaries effectively was attributed to dictionary-makers rather than users,

> "the view is now widespread that successful use of a dictionary calls for a special 'competence' which for want of appropriate training, many students do not possess" (1999: 188).

Scholfield (1982: 193) calls for practice of each of the seven steps outlined above, so that learners' success in dictionary use for comprehension can be increased. Heath & Herbst (1985) make a strong plea for integrating dictionary training into regular classroom activities. However, there appears to have been little, if any, research undertaken on how dictionary training improves successful dictionary use. Results of the think-aloud studies in this thesis make it clear that research into strategy training is much needed, as the lack of appropriate strategies appeared to be a frequent cause of unsuccessful dictionary consultation (cf. 6.2.2.5. and 6.3.2.).

2.5. Lexicographic literature

The discussion will now move towards the monolingual learners' dictionary, as the comparison of different definition styles is a major research issue in this thesis. Relevant to this issue is the debate on lexicographic principles for learners' dictionaries in general, and more importantly, on the principles for defining words. Because the definition styles of *Collins COBUILD English Dictionary* (COBUILD) and the *Langenscheidt Großwörterbuch Deutsch als Fremdsprache* (LGDaF) are under scrutiny in this research, assessments of these dictionaries in the pertinent literature will also be reviewed.
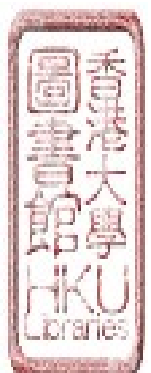
2.5.1. Learners' dictionaries: a growing market

In the past thirty years, learners' dictionaries have become increasingly a subject of interest for language teachers, applied linguists, lexicographers, and, especially in the prospering ELT market, publishers. After the *Oxford Advanced Learner's Dictionary of Current English* (OALD) existed for more than thirty years without a competitor, the *Longman Dictionary of Contemporary English* (LDOCE) was brought onto the market in 1978. This new learners' dictionary received much acclaim for its innovative, user-friendly features such as a controlled defining vocabulary, a clear access structure and a mnemonic grammatical coding system. The arrival of the LDOCE set off the development of a competitive market for learners' dictionaries, so that lexicographically English became "the best-described language in the world" (Herbst 1996: 321). In 1987, a revised second edition of LDOCE was brought out, and in the same year, the COBUILD appeared. COBUILD was regarded as revolutionary in breaking with some lexicographic traditions and conventions. It was the first dictionary based on a large corpus of authentic English in computerised form, the Collins Birmingham University International Database, later called the Bank of English. It was also the first dictionary that defined words in a full-sentence format, presented a larger number of examples for words, and avoided cluttering the entries with codes, symbols, and abbreviations by banning technical information into an extra column. The year 1995 saw the appearance of four learners' dictionaries: a third edition of LDOCE, a second edition of COBUILD, a fifth of OALD, and a newly developed one, the *Cambridge International Dictionary of English* (CIDE).

For languages with smaller numbers of L2 learners such as German an investment like that is not possible. While the number of learners of English worldwide is estimated at between 500 million and one billion, the number of learners of German is nowadays estimated at only 15 million (Götz & Haensch 1998: 345). Unlike learners of other languages, a large number of English learners study the language up to a high proficiency level. These factors create a blossoming market for English dictionaries. In addition to generous investments, experience from a long tradition of learner lexicography, feed-back, and continuous discussion have led to major improvements and innovations and resulted in a very high standard of English learners' dictionaries.

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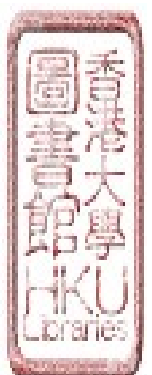
Unlike for English and also French, there is no tradition of learner lexicography for German as a foreign language. Until recently, learners of German had to rely on general dictionaries compiled for native speakers. The metalexicographic discussion did not address the special needs of language learners until the 1980s (Kühn & Püschel 1982, Kempcke 1996: 115). The first ever German monolingual learners' dictionary, LGDaF, came on the market only in 1993. Since then, the development of learner lexicography has progressed. In 1999, a monolingual dictionary for the elementary level, *Pons Basiswörterbuch Deutsch als Fremdsprache* came on the market. Another learners' dictionary, which has its origins at the 'Akademie der Wissenschaften' in the former GDR, was published in early 2000 by deGruyter, Berlin. However, these two dictionaries were not considered in this thesis, as they were not yet available at the time when the research was conducted. Also, they explicitly cater for learners at proficiency levels different from the target level of this thesis, i.e. intermediate. PONS aims at learners at the elementary level, while deGruyter's aims at more advanced learners.

The focus of this thesis is on the effectiveness of the LGDaF for intermediate learners.

2.5.2. Principles for the description of meaning

In this section, much of the discussion will deal with the application of lexicographic conventions of native speaker dictionaries to learners' dictionaries, where they have an unhelpful and deterrent effect. It has to be noticed that traditional conventions still prevailed in English learners' dictionaries before 1987, for instance OALD (1974), LDOCE 1st (1978), and *Chambers Universal Learners Dictionary* (1980). The revised second edition of the LDOCE (1987) and COBUILD (1987) introduced many innovations and a distinctly more learner-friendly style. By contrast, the German learners' dictionary, LGDaF, although published six years later, adheres in several aspects to conventions which, as the discussion will show, are not beneficial for learners.

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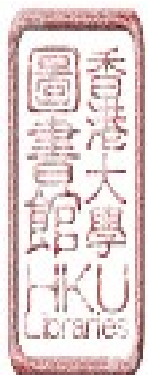
2.5.2.1. Restricted defining vocabulary

One of the many features that distinguish learners' dictionaries from those for native speakers is the "careful control of the language of definition" (Rundell 1988: 128). One approach to controlling the language is the restriction of the defining vocabulary. The LDOCE uses around 2000 words which are provided in a list in the appendix. It states that only "the most common and central meanings of the words in the list" are used in the definitions (1995: B12). This method addresses earlier warnings that restricting the defining vocabulary may not necessarily improve learners' comprehension, "since these more frequent words are also the most polysemous and idiomatic in the target language" (Hartmann 1989a: 184). COBUILD does not have a predetermined defining vocabulary, but claims that "whenever possible, words are explained using simpler and more common words. This gives us a natural defining vocabulary with most words in our definitions being amongst the 2,500 commonest words of English" (1995: xviii). In 1995, even the OALD followed suit in its fifth edition by offering a defining vocabulary of 3500 words (Yorkey 1997: 178). By contrast, the LGDaF does not seem to have any policy for controlling the defining vocabulary. In the introduction, it states vaguely: "Die Bedeutungen der Stichwörter werden, so weit es geht, durch einen einfachen und verständlichen Wortschatz beschrieben" [The meanings of words are defined, as much as possible, in a simple and comprehensible vocabulary] (1993: xix). As the LGDaF is not based on any corpus or word list, it was obviously left to the intuition of the lexicographers to choose the kind of common vocabulary that learners would understand. In a metalexicographical account of the development of the LGDaF, the editors express doubts that for the German language a defining vocabulary of 2000 words would be sufficient (Götz & Haensch 1998: 349; also Herbst 1998: 23). This appears to be a rather speculative argument and certainly not a satisfactory explanation for not exerting some control over the vocabulary used in the dictionary. Without any guidelines, lexicographers have to rely on their own judgement of which words are common and likely to be familiar to learners. As different lexicographers work on different letters of the alphabet, there must be contradictory judgements about the suitability of words for a learners' dictionary. Herbst (ibid.) regards as the main advantage of a controlled defining vocabulary a certain "Disziplinierung der Lexicographen" [discipline required from the lexicographers].
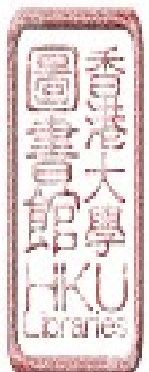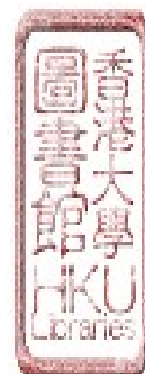
The opinions about restricted defining vocabularies are divided. The main reasons for using them are firstly to give learners access to the dictionary at an earlier stage of language learning, and secondly "to avoid using words for the explanations of a headword which are more difficult than the word to be explained" (Neubauer 1984: 117). Critics have expressed the view that controlled defining vocabulary results in a lack of accuracy, and in a language that sounds clumsy and unnatural (Carter, 1987: 127; Kirkpatrick 1985:10, cited in Neubauer 1989: 90; Zöfgen 1994: 136). Cowie questions whether it is possible 'to define some words adequately in terms of others of higher frequency" (1989: 47). Tickoo (1989: 188) warns that controlled vocabulary creates "inauthentic" language that should not be used as a model for learners. While these claims may be true to some extent, it seems inevitable that some control should be exerted over the vocabulary of definitions, if the dictionary aims at learners below a rather advanced level. However, Zöfgen (1994: 138) warns that the effectiveness of definitions with controlled vocabulary should not be overrated, as long as there is no empirical proof that they are understood better.

2.5.2.2. The lexicographic definition[7]

In their defining style, especially, the earlier learners' dictionaries followed the tradition of native-speaker dictionaries by using their main definition type, the so called lexicographic or analytic definition. It goes back to the Aristotelian theory of definitions which requires that a term has to be defined by the next superior species (genus proximum) and distinguished from that species by specific differences or features that distinguish the term from others belonging to the same species (differentia specifica) (Wiegand 1989: 547). In order to identify and describe the specific differences of a word, componential analysis or lexical decomposition is employed, which is the analysis of a lexeme into its component semantic parts (Lyons 1995: 107/8). The procedure of the componential analysis was described in much detail by Ayto (1983). Because of this procedure, this type of definition is also called analytic definition.

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[7] Wiegand (1989: 539 – 542) and Zöfgen (1994: 127 – 131) give a detailed account why 'definition', as used in the sciences, is an unsuitable term for the explanation of word meanings in dictionaries, and suggest the term 'lexical paraphrase'. Although their argument is convincing, in this thesis the term 'definition' will be maintained, because it is most widely used in the literature.

The lexicographic definition is also, as Hanks (1987:119) explains, influenced by the formalism of the early 18th century and Leibniz' principle of substitutability which states that two expressions are synonymous if one can be substituted for the other with the truth remaining unaltered. While in earlier dictionaries discursive explanations were quite common, from Leibniz' time on until now lexicographers wrote definitions with the aim of being able to substitute the unknown word in any context. In the 19th century, in addition to the principle of substitutability, the principle of precision was adopted, which means that the definition has to include all necessary and sufficient conditions of a word (Hanks 1987:120). Because the word in the dictionary is decontextualised, it was felt that the definition must "cover the requirements of an infinite number of instances of the lexical item in actual use" (Stock 1987: 82).

These principles have created a style of defining language which has been called sarcastically '"dictionary-ese" (Scholfield 1982: 190), and which exhibits a peculiar syntax fairly remote from natural language. Rundell describes this language in the following way:
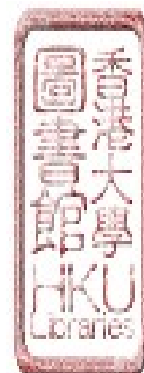
> " What seems to have happened is that a whole range of conventional defining formulae has become 'ossified' in the almost liturgical domain of the dictionary: users accept such formulae, even expect them, in dictionary definitions, even though they would be regarded as stylistically deviant in most other environments" (1988: 131).

The principles of the lexicographic definition have determined the style of native-speaker dictionaries[8], but have been applied to learners' lexicography as well. As shall be demonstrated in the following section, this is often to the detriment of learners.

2.5.2.3. Defining with genus proximum and differentia specifica

Kühn (1998: 38) and Zöfgen (1994:131) point out that defining with genus proximum and differentia specifica creates stylistically and syntactically complex definitions which are hard to understand for learners. The underlying principle of precision can make the second part of the definition containing the specific differences rather extensive. Complex syntactic structures cannot be avoided, because the specific

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[8] An investigation by Greenbaum, Meyer & Taylor (1984, cited in Zöfgen 1994: 131) revealed that 65 percent of native speakers of English experience problems with lexicographic definitions.

differences are usually defined through one or several subordinate clauses which are dependent on the superordinate. Because of the structure of the German language, subordination creates more difficult and complex sentences than in English. Examples for the complexity of lexicographic definitions in the LGDaF are given in 5.1.1.

Wiegand (1989: 547 – 550) rejects Agricola et al's (1987: 23) claim that the definition with genus proximum and differentia specifica is the most suitable one for verbs, adjectives, and nouns. He argues that outside the sciences with their taxonomic hierarchies, in everyday language the choice of a genus or superordinate can be a subjective one. There are often more than one superordinate for a word. It also has to be noticed that the requirement for superordinates forces abstract and generalising words[9] into the definitions which are not part of the "frequency and pedagogic lists of English" (LDOCE 1987: ix, cited in Zöfgen 1994: 133) that form the basis for the restricted defining vocabulary.

Kühn (1998: 35 – 38) explains that the principle of defining by genus proximum and differentia specifica has been dominant in German dictionaries from the 19th century on. Despite growing criticisms in the metalinguistic discussion this tradition has prevailed, and been followed even in the first learners' dictionary. Many examples of this definition style, often with abstract superordinates which are beyond learners' vocabulary, can be found in the LGDaF. In addition to syntactic complexities this defining style also poses semantic difficulties to learners.

Another problem with the defining style is explained by Stock: it is only suitable for nouns, and yet it is applied to other parts of speech as well, thereby distorting natural language:

> "Typically, under the influence of the analytic definition technique, adjectives are converted, so to speak, into honorary nouns by means of an introductory formula such as 'of or characteristic of' which allows the lexicographer to proceed with a nominal definition" (1987: 82/3).

The definitions of adjectives rarely have an adjectival genus proximum, probably because adjectives do not form hierarchical systems in the way nouns do (Svensen

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[9] Such as 'vehicle' or 'organ'.

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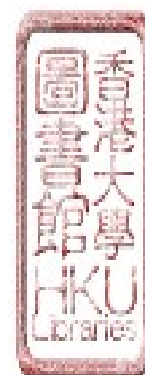
1993: 128). Although usually in learners' dictionaries more comprehensible introductory formulae for adjectives are chosen, the fact remains that the definition style presents learners with a highly artificial metalanguage which requires special decoding skills.

2.5.2.4. Substitutability between definiens and definiendum

According to Ilson, the substitutable definition

> "...is the de-lexicalisation of a lexical unit into semantic and syntactic components which are then presented in a single phrase whose content characterises the definiendum semantically while its form characterises the definiendum syntactically" (1987: 71).

The definition is usually based on a genus word which matches the grammatical category of the word being defined. While Ilson's example, the definition of "gorgeous: strikingly beautiful"[10], suggests that this definition technique makes it easy for the user to substitute the unknown word with the definition phrase, the process is not so straightforward in the majority of cases. Firstly, as Piotrowski explains, the definition will never contain all the meanings of a word. For semantic reasons, "the classical 'substitutable' definition is a fiction, because it is substitutable in a number of contexts only" (1989: 75). Secondly, the differentia usually consist of several components, so that the phrase that is to substitute a lexical item is much longer. Thirdly, while genus words for nouns can be more easily found and substituted, for other parts of speech, particularly for adjectives, often awkward and only roughly equivalent structures are used. These structures can only replace the unknown word in its context after certain adjustments, as Scholfield (1982: 190 – 191) demonstrates with several examples. For instance, a learner who tries to understand the adjective 'natural' in the context: 'He died of natural causes' and finds the definition "of, concerning, or being what is or happens ordinarily in the world' (definition cited in Scholfield 1982: 190), needs superior linguistic skills to decode and adjust the definition in order to substitute the adjective in the context.

The post-1987 generation of English learners' dictionaries has moved away from formulae such as 'of', 'concerning' or 'being'. However, the aim of substitutability is still obvious in many dictionaries, apart from COBUILD which abandoned this aim

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[10] 'beautiful' is the genus, and 'strikingly' the differentia.
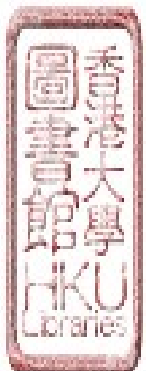
with its full-sentence definitions. In the LDOCE, for instance, substitutability for adjectives is maintained with the use of participial phrases like:

> **natural 2** not caused, made or controlled by human beings
> **4** behaving in a way that is normal and shows you are relaxed and not trying to pretend (LDOCE 1995: 944).

Substituting these meanings for the unknown word, especially when it appears in attributive position, is doubtlessly a difficult task which requires a number of adjustments. Like the definition of 'natural' (4th meaning), the corresponding definition phrase in the LGDaF has a complex syntactic structure:

> **natürlich 5** <ein Mensch> so, dass er entspannt ist u. so aussieht, spricht u. handelt, wie es seinem Wesen entspricht (LGDaF 1993: 688).

In the LGDaF participial phrases or the introductory formula 'so, dass...' [so that...] are used to make the definition substitutable. The fact that two subordinate clauses are dependent on the particle 'so' creates a syntactic clumsiness and an unbalanced structure which cannot fit into another context without major transformations. This lack of balance in the equation of lexicographic definitions, where all the information is on the right-hand side, has been described by Hanks (1988: 42 – 43).

2.5.2.5. Text condensation

Dictionary entries usually have condensed texts. Text condensation has been defined as

> "die Konzentration von möglichst viel Inhalt auf möglichst wenig Wörter..." [the concentration of as much as possible content into as few as possible words...]
> (Eggers, 1983, cited in Wolski 1989: 957).

Much of the information is not presented in full text, but condensed for the sake of brevity by means of different text replacement devices, for instance symbols or typographical variants. The definition text itself is also kept short through such devices as well as through the structure of the lexicographic definition. According to Stock, "by the use of a severe framework" for the lexicographic definition,

> "which restricts the contents to criterial conditions and places the genus word early in the definition, the length can be kept within reasonable bounds without too much potential for loss of meaning" (1987: 82).

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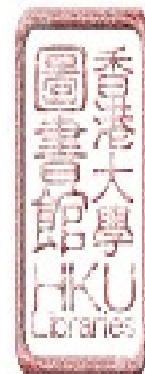
The question is, however, whether restricting the length of definitions impedes their readability and comprehensibility, and therefore is counterproductive to the aims of learners' dictionaries.

An important reason for text condensation in dictionaries is to save printing space (Wolski 1989: 958), and editors are under commercial pressure to keep to space restrictions (Götz & Haensch 1998: 346). Another reason is closely related to the principle of precision in the lexicographic definition: the devices of text condensation give lexicographers the opportunity to include a lot of data and information without using too much space (Wolski ibid.).
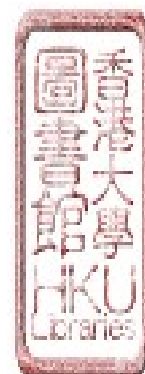
The devices are standardised within a dictionary and explained in the preface or in special work sheets or work books. However, they differ from dictionary to dictionary, and therefore learners who use different dictionaries can be confused by the various conventions. Condensation devices include

a) the elimination of parts of sentences; the connective between definiendum and definiens, for instance, is always omitted in the lexicographic definition (Hanks 1987: 42);

b) the replacement of information by symbols; the headword is often replaced in the definition by the symbol ~ or its initial letter;

c) abbreviations; pronouns and some coordinating conjunctions, for instance, are commonly abbreviated;

d) brackets; the referent of the headword is often stated in brackets, so that a full sentence can be avoided (Wolski 1989: 961 – 965).

These condensation devices are by no means user-friendly (Stock 1988: 87). They require an intimate knowledge of the conventions of the particular dictionary as well as considerable decoding skills.

Again, the modern English learners' dictionaries have eliminated condensation devices to a large extent. The example of the adjective 'scrumptious' shows that the LDOCE has replaced the use of brackets by including the referent into a full-sentence definition:

scrumptious (esp. of food) extremely good; delicious   (LDOCE 1987)
     food that is scrumptious tastes very good (LDOCE 1995)

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By contrast, the LGDaF makes full use of condensation devices in order to accommodate information about grammar, style, derived word forms, etc. As Herbst rightly observes, the pedagogical value of a learners' dictionary decreases with the reduced readability of definitions. The readability of LGDaF definitions is, in his opinion, reduced especially by different abbreviations. Avoiding space saving devices like that would in his view considerably contribute to the quality of a learners' dictionary (1998: 25/6).

2.5.2.6. The derivational definition

The derivational definition is another way of saving space. In this type of definition the target word is explained by means of its derivation from another word (Rundell 1987: 132). Svensen gives the following example of what he terms "morphosemantic definition":

"sarcastic: characterized by sarcasm" (1993: 128).

Naturally, this definition occupies far less space than one which would really explain the meaning of the word. Thus, in order to find this meaning, the learner has to look up the root or base word as well. In doing so, he can face several difficulties. Depending on the kind of derivation, the derived word is physically separated from the root word by alphabetical order. Even if the learner understood the meaning of the root word, it may not always be so simple, depending on the type of derivation at hand, to infer the meaning of the derivative.

Therefore derivational definitions present serious problems for learners (ibid.). In many, if not most cases, it is exactly the root word which they do not know. If they knew the root word, they might in many cases be able to derive the meaning of derived words themselves.

If a learners' dictionary should enable users to access word meanings through one look-up action, as Neubert (1996: 161) suggests, then there is no place for derivational definitions. However, a spot check in the LGDaF revealed a substantial number of derivational definitions (cf. 4.3.3.).

2.5.2.7. Encyclopedic definitions

As part of the drive for precision in definitions, in the 19th century the ideal of objective descriptions was established. This ideal is still prevalent in present lexicography and manifests itself in a scientific approach to the description of meaning. Natural-kind words, for instance, are defined in a taxonomic way, by drawing on findings of the natural sciences (Piotrowski 1988: 55). In native-speaker dictionaries, biological taxonomies are commonly used. Definitions are expressed in scientific terminology, including Latin names, as the following example shows:

dog A quadruped of the genus *Canis*... (OED, cited in Piotrowski 1988: 61). The encyclopedic or taxonomic definition can be useful for native speakers who know the meaning of a word but want to find out specific details. But learners look for information about language, not the real world, and more than anything they are concerned with understanding the meaning of words. As Ayto puts it,

> "...when a learner looks up *elephant* he probably does not want to know its Latin name and details of its habitat, diet, and physical make-up" (1984: 54).

However, encyclopedic details are frequently found in learners' dictionaries, especially in the definitions of concrete nouns. They are obviously included with the assumption that learners will derive the meaning of words from these details. For example, the word 'car' is defined in the LGDaF in the following way:

> **Auto** ein *mst* geschlossenes Fahrzeug, das gewöhnlich vier Räder hat, von e-m Motor angetrieben wird u. *bes* zur Beförderung von Personen dient
> / a *mostly* closed vehicle, which usually has four wheels, is driven by an engine and *esp* fulfills the purpose of transporting persons /

Such a definition totally fails to meet the needs of learners. It is preoccupied with the physical appearance and technical details of the referent word. Naturally, the vocabulary for this kind of description is infrequent and difficult. The factual details are usually known by learners as part of their world knowledge already. Their problem is that they cannot understand these details because they are presented in a stylistically and semantically complex format. Zöfgen (1994: 142/3) shows that encyclopedic definitions are still common in modern English and French learners' dictionaries. He requires encyclopedic information to be replaced by more information about the usage of the words, i.e. "less classificatory and more pragmatic definitions" (Weinreich 1976: 362, cited ibid.).
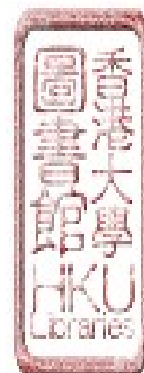
A typical tendency of encyclopedic definitions is to put the emphasis on the description of form instead of function (Piotrowski 1988: 58). Stock (1988: 84) demonstrates with the example of the concrete noun 'thimble' how the description of its form results in a far more difficult definition than the description of its function. Kühn (1998: 38/9) lists a number of concrete noun definitions in the LGDaF which are unnecessarily difficult through the description of encyclopedic details and the form of the objects. Instead of describing primarily the form of nouns, their function, pragmatic use, and culture-specific meanings should be made known to the learner.

2.5.2.8. Polysemy and entry lay-outs

Traditionally, polysemous words are listed in single multi-sense entries, which can be very long. According to Rundell, this convention is widely found in learners' dictionaries, too. The organisation of different meanings into either separate homonyms or a single polysemous entry seems to be intuitive sometimes, especially when occasionally "separate homographs exhibit a greater degree of semantic similarity than is found in many polysemous entries" (1988:129). The presentation of polysemous entries makes the accessibility of individual word meanings difficult. In the LGDaF the entries of polysemous words are cluttered with information presented through different condensation devices, which makes them look rather "archaic" (Kühn 1998: 50) and intimidating to learners. The different meanings in these entries are not visually separated from each other, for instance through paragraphs. Kühn regards the polyvalencies in the LGDaF as "inflationary" (ibid. 46). When comparing the number of meanings of a polysemous word in a native speaker dictionary and the LGDaF, he found that the LGDaF listed almost as many meanings. He concludes that no pedagogically justified selection of word meanings was made in the LGDaF (ibid.: 48).

This method of splitting a word's meanings into sometimes the most subtle sub-meanings, however, is contradictory to the objectives of learners' dictionaries. While the central aim of native-speaker dictionaries has been described as "meaning and coverage" and, according to the principle of precision, "the provision of the maximum possible number of word-meanings" (Rundell 1988: 128), in learners' dictionaries a selection must be be made on pedagogical grounds of the those meanings which are of value to the users. According to Rundell, the description of word-meaning should

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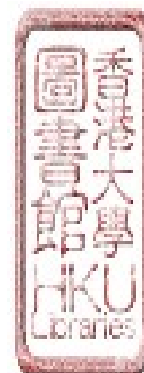
be based on a "prototype approach", presenting the "core meaning" of the word, rather than splitting words in too many separate meanings (ibid.: 134). The same approach is advocated by McKeown who investigated the effectiveness of different definitions for native speaker children:

> "For a definition to be optimally helpful for developing a representation for a word's meaning, it should pinpoint the word's meaning by explaining its characteristic or prototypical use. …Basing a definition on prototypical use may not capture all possible applications of a word, yet if a definition aims instead to be all-inclusive, the explanatory strength is easily lost." (1993: 21).

Another question concerns the macrostructure of dictionaries: when should lexical items with several meanings be expressed as homonyms or polysemous words? Zöfgen (1994: 84 – 88) describes the linguistic discussion about the distinction between homonymy and polysemy. Commonly accepted criteria are still lacking. The lexicographic practice reflects the ambiguity of semantic theories: In many cases it is not obvious according to which criteria lexicographers lemmatised lexical items as homonyms or polysemous words. However, for the practical needs of dictionary users the linguistic criteria are irrelevant. Zöfgen argues that "de-grouping", i.e. presenting items with polyvalencies as homonyms, enhances the readability and accessibility of the lexicographic text. Visually separating the meanings by presenting them in different entries instead of cluttering them in polysemous entries would bring pedagogical and psychological benefits to learners (ibid.: 93 – 95). Certainly, this approach would considerably improve the lay-out of entries in certain dictionaries, for instance the LGDaF.

2.5.2.9. Summary: The main deficiencies of the lexicographic definition

Rundell (1987: 133) sums up what makes lexicographic definitions unsuitable for learner lexicography with the following three points:

1) "Organisational procedures that inhibit ease of access and sometimes make unreasonable assumptions of the users knowledge". Access is especially inhibited through the treatment of polysemous words; i.e. the artificial splitting of meaning into numerous sub-meanings, and their organisation in crowded entries. Unreasonable assumptions of learners' knowledge are, for instance, made in derivational definitions: Learners are expected to know the root word by which the derivative is defined. In the reverse case, derivatives are commonly listed at the bottom of the entry of the root word without their own definitions. Here, the users
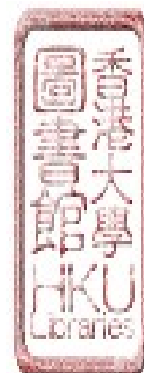
are expected to a) understand the definition of the root word; b) know the relevant affixes and word formation rules, and c) infer the meaning of the derivatives by themselves.

2) "Definition language that presents models of usage which would be unacceptable in almost any other context". The highly artificial metalanguage is created by a) the lack of balance in the definition structure where sometimes several differentia specifica depend on one genus proximum, and b) the text condensation devices.

3) "Entrenched defining techniques which subordinate usability to precision, impede understanding, or convey important semantic information in a needlessly indirect fashion". Rundell should perhaps have ranked this point before the second one, because the "entrenched definition techniques" are the cause of the artificial definition language. It is especially the principle of substitutability which forces unnatural structures upon the definitions. Precision is the driving force behind polysemous entries as well as encyclopedic definitions. Both types obscure the important information for the learner: in the jungle of polysemous entries, the relevant information cannot easily be accessed; in encyclopedic definitions the emphasis is on semantic details which are complicated to describe, but to a larger extent irrelevant for learners.

The deficiencies in the description of meaning have been widely recognised and discussed in the metalexicographic literature. In the following section, suggestions for more user-friendly dictionaries will be discussed.

2.5.3. Lexicographic recommendations for user-friendly learners' dictionaries
Lexicographic tradition rather than user needs still determines the design of learners' dictionaries. As has become clear in the previous sections, most characteristics of lexicographic definitions are unsuitable for learners. Zöfgen (1994: 146) and Kühn (1998: 56) believe that therefore their use in learners' dictionaries should be radically questioned.

2.5.3.1. The specification of users needs
Instead of lexicographic definitions, dictionaries should be designed with the specific needs of the users in mind, i.e. they should be appropriate to the function they are needed for, and appropriate to the proficiency level of the learners (Zöfgen 1994: 15-

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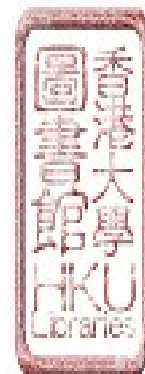
17). As Hartmann (1989a: 183/4) reports, nothing is known about the necessary 'threshold level' for successful dictionary use. He calls for a dictionary typology for pedagogical purposes that would have to account for:

a) the learner's level of proficiency;

b) the type of activity the dictionary is used for;

c) language base and directionality (for instance mother tongue – target language/ target language – mother tongue);

d) category of information (for instance meaning, grammar, spelling) (ibid.: 187).

In the context of this thesis, a relevant category is the proficiency level required to use a certain dictionary. However, for commercial reasons presumably, dictionaries do not necessarily give information about their target group. Obviously dictionary publishers do not want to restrict their clientele[11]. It is also likely that dictionary publishers themselves are not quite aware for which proficiency levels their products are suitable. The lack of research into dictionary use results in a general lack of knowledge about what level of proficiency enables learners to deal with certain dictionaries. Unless it is not clearly specified what kind of problems learners at different proficiency levels experience with dictionary definitions, lexicographic recommendations remain to a certain extent speculative.

2.5.3.2. The use of natural language in definitions

In order to create a more user-friendly definition style, it has been proposed to base dictionary definitions on spoken language. Wiegand, for instance, proposed to model definitions on everyday language dialogs, in which an unknown word occurs and is explained spontaneously. This type of definition is also called "folk definition" (1989: 553 - 557). In such definitions, no metalanguage is used, but the unknown word is explained in natural language. This natural language is devoid of all features that characterise lexicographic definitions, such as the classificatory structure of genus proximum and differentia specifica, or condensation techniques. Explanations are

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[11] There is no information in the LGDaF, but, as Köster & Neubauer (1994: 222) notice, the "Introduction" and "Instructions fur Users", as well as the typographical lay-out of the entries give the impression that users have to be very advanced in their language studies and very knowledgeable about the use of dictionaries.
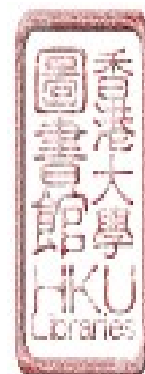
given in full sentences, instead of "the somewhat idiosyncratic syntax of dictionary-ese" (Scholfield 1982: 190) in lexicographic definitions. In an example provided by Stock (1988: 84), the lexicographic definition of 'colander' is compared with the folk definition:

> **colander** a perforated bowl-shaped utensil for washing or draining food
> (Longman Concise English Dictionary)
> It's what you strain spaghetti with (folk definition).

Stock analysed the techniques of folk definitions. She defines them as "the kind of casual explanation of the meaning of a word or phrase that any person familiar with a word may give to another person who queries its meaning" (1988: 81). In her view, they have several features which enhance understanding. These features include:

a) describing the function of concrete nouns rather than their form. The description of form is frequently clumsy and lexically difficult, unnecessarily obscuring concepts which are actually familiar to the users (cf. 2.5.2.7.). By contrast, when the function is described, which is usually possible in less complicated language, learners can access that concept from their own experience and world knowledge far more easily;

b) defining by example. Natural explanations often give an example of the lexical item instead of explaining the lexical item itself. A common expression in this defining technique is 'It's like..';

c) including a typical context into the explanation;

d) incorporating the word's register into the explanation.

In the example of 'colander', it is obviously the pragmatic description of the words' function in simple language which makes the folk definition easier to understand. As far as the first part of the lexicographic definition of 'colander' is concerned, it was already argued in 2.5.2.7. that the encyclopedic description of form is of little use to the language learner.

In traditional dictionaries, examples, typical contexts, and information about the register usually follow the lexicographic definition. However, as previous studies show, learners often do not read beyond the definitions and therefore frequently miss crucial information (cf. 2.6.2.2.). Therefore, a definite advantage of folk definitions is that these information categories are included in the definition text.

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Furthermore, there is no space restriction on folk definitions. That means any information felt to be helpful or crucial for the understanding of meaning can be provided within the definition. Definitions in natural language are not dominated by lexicographic rules, for instance that of substitutability, but provide necessary information for the understanding and the usage of a word within the part of the entry that the users will read.

In Stock's opinion, "lexicographic definitions have a curious tendency not to stick in the mind, whereas the immediacy, the accessibility and the vividness of folk definitions often make them more memorable and consequently more likely to be of help in both decoding and encoding" (1988: 86/7).
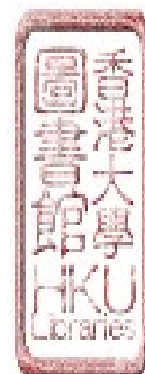
This immediacy, accessibility and vividness are characteristic of the explanatory style of COBUILD, as shall be discussed in the following section.

2.5.3.3. COBUILD as an example of a user-friendly definition style

Collins COBUILD English Dictionary was the first to break away from lexicographic tradition[12]. The editorial team tried to avoid the lexicographic conventions which they regarded as making "particularly difficult reading for ordinary readers, especially foreign readers" (Hanks 1987: 116). A new style of presenting lexicographical information was developed, which is usually referred to as explanation rather than definition (Hanks 1987; Sinclair 1991). COBUILD's lexicographers were encouraged to "write in clear, informal English prose" (Hanks 1987: 118), using "the capacity of language to talk about itself" (Sinclair 1991: 123) instead of an artificial metalanguage. Because of the natural use of words, no new conventions have to be learned by the dictionary users (ibid.: 135).

The COBUILD definition has a binary structure. An important defining strategy is to ask how a word is typically used rather than providing its necessary and sufficient conditions (Hanks 1987: 121). The first part shows the use of the word and its selection preferences. The connective, for instance 'is', or 'means', which is absent

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[12] According to Zöfgen (1994: 145/6) the French learners' dictionary *Dictionnaire du français langue étrangère* also turned away from lexicographic definitions by explaining words through typical contexts.

from lexicographic definitions, provides the opportunity to state the typical pattern of a word. Hanks (ibid.: 117) demonstrates how grammatical information such as the count/uncount noun distinction can be conveyed through this defining strategy:

A **brick** is...
Calligraphy is....

Through the full-sentence format, information can be included into the COBUILD definition which in the lexicographic definition has to be stated elsewhere, often in brackets:

COBUILD2: A **piece of** something is...   (COBUILD 1995: 1242)
LDOCE3:   **piece** a part of something.... [+ **of**] (LDOCE 1995: 1063)

Thus, the COBUILD definition provides a greater accessibility of information to the user.

The first part of the definition reflects what Stock described as typical for folk definitions, that "the context, or rather a typical context, is worked into the explanation" (1988: 84). The integration of a typical context is of great value to users, as Hanks explains:

> "A user who is attempting to decode text is more likely to encounter the word in one of these common, typical patterns and structures than in other possible, but rare structures, while a foreign learner who is struggling to encode English naturally and idiomatically needs guidance precisely on what is typical rather than on what is possible" (1987: 121/2).

The first part of the definition also shows the most likely concomitants of the target word. The most common selection preference for verbs is for a human subject. COBUILD chose an informal way of expressing this preference by addressing the reader directly. The following example shows the typical conditional-sentence structure of verb definitions:

If you **defeat** someone, you win a victory over them.... (Sinclair 1991: 124).

By addressing the user, the immediacy of spoken language is achieved. As Herbst notes, this definition type is not only easily understood, but is also "an excellent means of providing information on the semantic and collocational ranges of the valency complements of a verb" (1996: 326). Thus, the COBUILD definition provides a kind of generalised example sentence illustrating the word in use.

The pragmalinguistic value of this style is explained by Carter:

> "...common words such as *if, you, to,* do naturally figure in the styles associated in English with explanation. Learners may thus learn how to use

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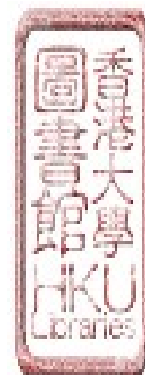
English to explain at the same time as using the dictionary to learn the meanings of words" (1989: 35).

As in folk definitions, the register of words is also an integral part of the COBUILD definitions. Figurative extension is usually expressed in the structure 'If....., you mean....'. In other cases, the word to be defined is also the linguistic object, and the definition is about its use:

> **toyboy** In informal British English, people sometimes refer humorously to a woman's lover as a **toyboy** when he is much younger than she is (COBUILD 1995: 1773).

As part of the definition, the information about the register is more accessible to users.

The second part of the definition identifies the meaning and has, as Hanks (1987:131) points out, most in common with definitions in traditional dictionaries. Hanks explains an important principle for the description of meaning: COBUILD describes the "meaning potential" of words rather than "metaphoric extensions" (ibid.: 131 – 133). This complies with the request for a "prototype approach", instead of presenting an abundance of separate word senses (Rundell 1988: 134, McKeown 1993: 21; cf. 2.5.2.8.).

Context is also integrated in the description of meaning, so that the right-hand side of the definition often takes the form of an "invented example" (Zöfgen 1994: 140). In Zöfgen's view, this is especially helpful with abstract words, because the definition is linked "more closely with the motivating reality" (Hausmann 1977: 36, cited ibid.). Zöfgen also comments on another positive effect of COBUILD's descriptive definitions: they contain "redundancies", i.e. they provide information beyond the "necessary and sufficient conditions of a word" (Hanks 1987: 120; cf. 2.5.2.2.), and frequently repeat information in different words. Such redundancies in word explanations are regarded as beneficial for the understanding and acquisition of new words (ibid: 136; Müllich 1990: 472). Zöfgen gives the following example for the integration of context and redundancies in the definition:

> **COBUILD1: responsibility 1** If you have **responsibility** for someone or something, you have control and authority over them, and it is your duty to make sure that necessary tasks are carried out (1994: 140).
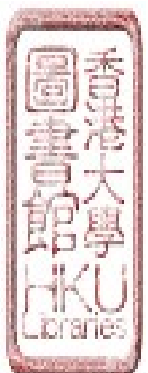
The full-sentence explanation has an additional advantage: complex syntax is avoided because the information is distributed more evenly between the two parts of the definition. The lexico-syntactic information appears on the left-hand side of the connective, and the semantic information on the right-hand side (Hanks 1988: 42). According to Hanks,

> "much of the information given by modern dictionaries is given on the wrong side of the equation. That is, it is placed within the definiens, although in fact it is part of the definiendum" (ibid.: 43).

What appears in COBUILD as the cotext of the definiendum within the first part, is in the lexicographic definition squeezed into the second part, in addition to the description of meaning. In Zöfgen's view, the COBUILD technique of spreading the information over a full sentence results in "décondensation" which enhances understanding (1994: 140).

2.5.3.4. Critical assessment of COBUILD's defining style

Carter (1989: 34) appreciates COBUILD's emphasis on usage. He notes the value COBUILD definitions have for the communicative teaching format. Because the lexicographers can rely on a large corpus of naturally occurring written and spoken data, they are able to provide more precise information about the authentic use of words, for instance its discoursal properties. More detailed information than in other dictionaries is especially provided for discourse-markers, such as 'well, if, then, because, but' (ibid.: 38 – 41).

There are, however, also critical voices about COBUILD's definition style. Hausmann & Gorbahn doubt whether "oralised" definitions, "formulated in spoken English in a spirit of partnership" are more comprehensible. Because this "oral formulation" has to be put down in writing, they argue, new communication barriers are erected. The advantage of the definitions which simulate spoken explanations would be lost in the written version, because the essential parts were not set off through print. In an authentic spoken explanation, however, these part would be emphasised by intonation. Furthermore, Hausmann & Gorbahn feel that in the case of difficult words, the "explanatory jargon" would not make the definitions any simpler. In many cases, in their opinion, "one cannot speak of clear and natural spoken language in
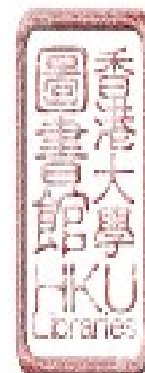
COBUILD, rather of ponderous, long-winded, tortuous and clumsy verbosity" (1989: 47/8).

Hausmann & Gorbahn arrive at their negative judgement after having compared among others the LDOCE2 and COBUILD1 definitions of 'scrumptious'. The LDOCE2 (1987) version still has condensed text, which is difficult for learners to decode (cf. 2.5.2.5.). This fact the authors dismiss with the comment that the decoding "can easily be handled by a German university student and even by learners over the age of 14" (ibid.: 47). Such a statement raises some doubt about the reliability of the authors' judgement: Have they observed 14-year old learners who decode condensed text easily? A German university student, on the other hand, has usually learned English for nine years and would not have difficulties with either definition style. And finally, whether learners react to the verbosity of the COBUILD definitions in the same derogatory way will have to be established by research.

However, the fact that "the explanations are rather verbose and occasionally use jargon" (Piotrowski 1989: 77) has been noticed by others as well. Zöfgen doubts whether the definitions really sound so natural, and gives three examples of rather repetitive explanations (1994: 141). However, two of those three definitions were improved in COBUILD's second edition (1995). The danger that learners may get bored because the same structures (If you..., you...) are repeated over and over again has also been recognised (Antor 1994: 78). On the other hand, when learners' proficiency level is not yet advanced, "vertraute Erklärungsweisen und sogar eine gewisse Redundanz" [familiar explanation structures and even a certain redundancy] (Müllich 1990: 472) may be very helpful.

Boogards (1996: 292) asks whether the "word story" of the COBUILD definition might be distracting as the setting where the learner meets the unknown word is possibly a totally different one. At the same time, Boogards admits that without more research , "...it is difficult to say anything definitive about which type of definition is most profitable for L2 learners" (ibid.: 293). COBUILD's explanations have also been critisised as being imprecise (Cowie 1999: 169). However, other learner dictionaries that try to define word in a simple way, for instance the LDOCE with its restricted
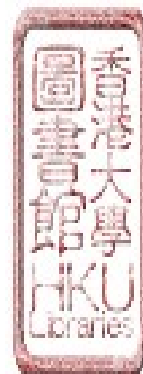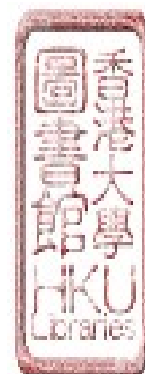
defining vocabulary, have been equally criticised for their lack of preciseness (Zöfgen 1994: 136).

Despite the criticisms, COBUILDs method of writing full-sentence definitions has gained ground: full-sentence definitions are now occasionally used in other dictionaries, such as OALD5, LDOCE3 and CIDE (Herbst 1996: 326).

2.5.3.5. Assessment of the LGDaF's defining style

It is generally recognised that the LGDaF means an improvement for learners who before had to rely on native-speaker dictionaries (Kühn 1998: 56; Köster & Neubauer 1994: 233). Nevertheless, it adopted the main principles of the traditional defining style, the lexicographic definition. These are, as discussed in 2.5.2.9., not user-friendly. In comparison to learners' dictionaries for other languages, especially English, the LGDaF does not come off so favourably. Herbst (1998: 21) concedes that the LGDaF lags behind modern English learners' dictionaries in several aspects, but argues that it would be unfair to measure the LGDaF against their English counterparts: the LGDaF's shortcomings are, in Herbst's view, rather due to the much tighter market situation than to the linguistic and lexicographic concept. This rather defensive argument was also put forward by the editors (Götz & Haensch 1998: 345, 350; cf. 2.5.1.). Götz & Haensch point at space restrictions and time restrictions: for commercial reasons entries in the LGDaF had to be kept short (ibid: 347); English dictionaries rely on a long tradition and had decades to develop, while the LGDaF was developed in less than ten years (ibid.: 345/6). These arguments raise a number of questions: As far as space restrictions are concerned, it could be argued that, for the sake of user-friendliness, space should be saved in the macrostructure of a learners' dictionary instead of the microstructure. As for the time restriction it could be asked why the LGDaF's editorial team, without the basis of a German learner-lexicographic tradition, did not try to follow their English or French counterparts more closely.

A rather speculative claim is that the German language does not allow as easily as English the control of the defining vocabulary (Herbst 1998: 23; Götz & Haensch 1998: 349, cf. 2.5.2.1.). Götz & Haensch argue that some English verbs have a
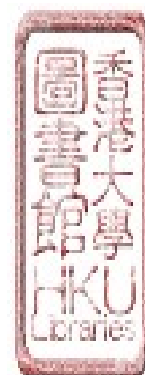
broader range of meanings than German verbs and can therefore be more widely used in definitions. This fact, however, only affects the size of a potential defining vocabulary. As long as no serious attempt has been made to create a defining vocabulary for German, apart from some sporadic examples, Herbst's and Götz & Haensch's claim has to be rejected. Perhaps a German defining vocabulary cannot be restricted as strictly as LDOCE's to 2000 words. Nevertheless, a substantial number of infrequent and difficult words[13] could have been avoided in the LGDaF, had there been some guidelines for the use of vocabulary in definitions. The major obstacle to a restricted defining vocabulary is certainly the fact that large corpora of general written and spoken language have not been compiled for German (cf. 5.2.1).

Using the full-sentence style for definitions in the LGDaF was also declared impracticable by its editors. Firstly, Götz & Haensch (ibid.) regard the gender-distinction (he/she) as a problem, notwithstanding the fact that COBUILD had to deal with the same problem. Secondly, full-sentence definitions would have taken up a sixth more space, i.e. 200 pages. In other words, user-friendly features had to be sacrificed to commercial considerations.

In terms of the accessibility of word meanings, Herbst (1998: 28) regards the entry structure and lay-out of entries of the LGDaF as equally user-friendly as those in English dictionaries. This assessment is unjustified: the LGDaF entries do not present different senses of a word in separate lines, as the recent English dictionaries do. Furthermore, the run-on entries in the LGDaF are far more cluttered with abbreviations, different fonts, and typesets. In short, the typography of the entries prevents learners from looking up word meanings successfully, as Köster & Neubauer found out (1994: 223). Herbst's assessment is based on the comparison of LGDaF entries with older editions of English dictionaries (for instance LDOCE2, 1987). In fact, the 1995 generation of English dictionaries have much improved their entry structure, while there was no change in the new edition of the LGDaF (1998).

The density of abbreviations in the LGDaF's definitions and examples, which hampers their readability and pedagogical value, has drawn criticism. Herbst (1998:

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[13] Such as those discovered by Köster & Neubauer 1994: 222/3 in the 'Instructions for Users' in the LGDaF.

25/6) doubts whether this method of saving space is justified in view of the reduced usability.

Finally, Kühn (1998:42) suggests that more illustrations should have been used instead of complex definitions.

While most judgements about the LGDaF have no foundation in user research, some do not even seem to be based on a careful analysis of the dictionary itself. Neubert (1996: 161), for example, demands that in a learners' dictionary the user should be able to understand any word without having to look up further words from its definition. He then claims that 'dieses nutzerfreundliche Vorgehen wird auch vom LWB in erfreulichem Maße realisiert, ohne daß damit eine extreme Simplifizierung oder gar Trivialisierung verbunden ist" [this user-friendly approach has been realised in the LWB (=LGDaF) to an encouraging extent, without bringing about an extreme simplification or trivialisation]. In the same vein, Kempcke judges that in his opinion the LGDaF fulfilled well the task of providing easy explanations which would hardly pose problems in decoding (1996: 121). Such statements are neither objective nor useful, without empirical proof that learners indeed have no difficulties in decoding the explanations. The authors, however, give no indication of how proficient the users must be to perceive the LGDaF explanations as easy. Neither do they give any criteria of what makes the language of explanations easy. Especially Neubert's claim that users do not have to look up more than one word can be proven as wrong by just considering the common appearance of derivational definitions in the LGDaF. Spot checks of the vocabulary used in the LGDaFs definitions[14] can easily disprove Kempcke's claim. Whether the LGDaFs explanations are indeed as user-friendly as Neubert and Kempcke assert can only be confirmed through research into their use. Given the fact that so many opinions have been voiced about the LGDaF, it is surprising that only one small study has been conducted on its effectiveness (Köster & Neubauer 1994). In that study, not even the number of participants is stated, and observations rather than conclusive results are reported. The effectiveness of the LGDaF definitions for intermediate learners is one of the main issues to be examined in this thesis.

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[14] cf. the spot check of 60 LGDaF definitions that was carried out in this research (4.3.3.).

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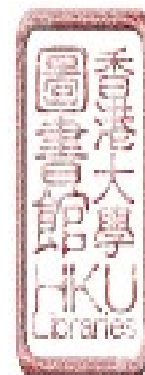
2.6. Empirical studies into dictionary use

In a comprehensive review of empirical dictionary research, Zöfgen (1994:34/5) criticises a number of studies for being unfocused and lacking clearly specified research questions. They are too general in their approach, covering usage habits, references skills, and users' opinions about their dictionaries. A prerequisite of theory building is the comparability of findings across individual research designs. However, most researchers into dictionary use neither based their research on previous findings, nor aimed at a research design which would allow some comparability with other studies. Typically, this type of research is carried out by questionnaires (for instance: Béjoint 1981, Battenburg 1991, Voigt 1991).

In accordance with more refined research questions, from the second half of the 1980s onwards the spectrum of research methods went beyond questionnaire studies, including user protocols, tests, interviews and occasionally introspection.

Among the more focused research studies, Zöfgen distinguishes three categories:
1. research into the effectiveness of dictionaries for different purposes, such as reading, text production, and translation;
2. research into different types of dictionaries, such as valency dictionaries, or dictionaries for specialist terminology;
3. research into information categories in the dictionary, for instance the comprehensibility of definitions, the presentation of phrasal verbs, idioms, etc. (1994: 35).

For this thesis, research from Categories 1 and 3 is relevant. However, for some background knowledge about dictionary preferences and reference needs of learners, research into the context of dictionary use will be briefly reviewed. Secondly, from Category 1 those studies will be reviewed which investigated the effectiveness of dictionary use on reading comprehension and vocabulary learning. Thirdly, from Category 3, research into the comprehensibility and effectiveness of definitions will be reported.

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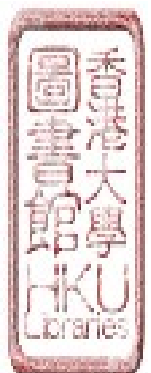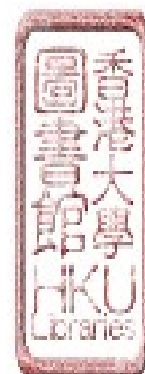
2.6.1. Research into the context of dictionary use

Hartmann (1987:13/4) calls this research area "needs typology". It deals with a) the type of dictionaries learners prefer; b) the activity context, i.e. whether the dictionary is needed for reading, writing, listening, speaking, or translating; and c) the information type, i.e. whether the user is looking for meaning, spelling, pronunciation, etc. It was explained in 1.1., that the above needs are termed 'reference needs' in this thesis, to be distinguished from 'user needs'. The following findings of earlier survey studies are relevant for this thesis:

1. Learners give preference to bilingual dictionaries and rarely use monolingual dictionaries (Baxter 1980). Baxter's survey of 342 Japanese students showed that even university majors of English do not regularly refer to the English monolingual dictionary. As later empirical studies show, this finding does not only apply to the Japanese context, but to the majority of learners, regardless of their language learning background and language proficiency (Zöfgen 1994: 253/4).

2. The most common activity contexts for dictionary use are reading and translation (Béjoint 1981: 216, Hartmann 1982: 81, Cowie 1999: 185).

3. Learner dictionaries are mainly consulted for word meanings (Béjoint 1981: 215, Hartmann 1982: 82, Snell-Hornby 1987: 167, Summers 1988: 114). Cowie presents a comprehensive overview of questionnaire studies, including some with Italian and Arabic learners of English. Most of them provide evidence for "the dictionary user's overwhelming preoccupation with meaning" (1999: 181).

Methodological weaknesses in these questionnaire studies have been pointed out by Zöfgen (1994: 36 – 39): The results are presented in averages, without distinction between the heterogeneous groups of participants[15]. Important user variables were thus not recognised, and consequently the results remain vague. The lack of focus of these surveys has already been mentioned. Especially Béjoint tried to cover a variety of topics in his questionnaire. Some questions such as No. 5: "What other monolingual dictionaries do you know?", or No.14: "Are you satisfied with your monolingual dictionary?" do not lead to meaningful results, because for learners the dictionary is just a tool which hardly makes them reflect about lexicographic issues. A general problem with metalexicographic questions is that the participants do not

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[15] In Béjoint's case, no distinction was made between the second-, third-, and fourth-year students; in Hartmann's survey averages were taken from groups as different as teachers, university students and pupils from secondary schools. Therefore a most relevant variable, i.e. proficiency in the FL, was "neutralized" (Zöfgen 1994: 36).

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necessarily know the terminology, for instance the terms for the different components of a dictionary entry. It is also doubtful whether reliable data can be obtained when subjects are required to remember specific problems with their dictionaries[16]. In general, these surveys only highlight a small aspect of dictionary use and provide a kind of background knowledge to more process- and result-oriented research questions. Only the investigation of what actually happens when learners look up words, and what helps or hinders them to understand word meanings, can lead to better training of dictionary use as well as improvements in learner lexicography.

For the reasons described above, Hatherall rejects questionnaires as a reliable research tool for dictionary use altogether:

> "Are subjects saying here what they do, or what they think they do, or what they think they ought to do, or indeed a mixture of all three? Do they define the categories in the same way – and in the same way as the researcher?...I conclude that, whatever the difficulties, the only reliable method of collecting data on dictionary user behaviour is by direct observation" (1984: 184).

Hartmann calls for a change of direction in dictionary research:

> "More and more the suspicion is gaining ground that indirect surveying of population samples need to be supplemented or replaced by more fully controlled direct observation" (1987: 15).

Given that the value of questionnaire studies has been so strongly called into doubt, it is the more surprising that such studies continued to be published, for instance by Battenburg (1991). In order to compare findings, Battenburg chose "somewhat similar" questions to those posed by earlier researchers, for instance Baxter and Béjoint (p. 88). The remarkably short questionnaire of ten questions was administered to only 60 ESL students in the US, with the aim to find out whether their native language background or proficiency level affected their use of dictionaries. Predictably, as the small sample contained seven different nationalities, the language background did not reveal significant patterns. Battenburg's findings lack information value and reliability. It cannot be expected that ten questions are sufficient to cover the areas of "usage habits, reference skills and opinions of these dictionary users" (ibid.). One answer shows that 95 percent of the subjects at the elementary level

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[16] cf. Béjoint's question 15: "Can you recall occasions when you could not find what you were looking for?"
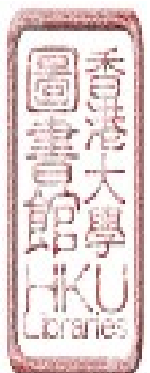
claim to use the English monolingual learners' dictionary always or often (p. 91). Because the language ability of the "beginning ESL students" in this study was quite limited, as Battenburg had stated earlier (p. 90), it may be assumed that those subjects did not even understand the question.

Battenburg's investigation is the clearest example of the limited information value offered by this type of "user-based lexicographical research projects" (p. 88).

2.6.2. Research into the effectiveness of dictionary use on certain language tasks

There are a number of studies which compare the effect of dictionary use versus no dictionary use on reading comprehension, translation and language production. In some investigations the effect of the dictionary on incidental vocabulary learning while reading is also measured. These studies can be divided into result-oriented ones and process-oriented ones. In the first category, performance data such as test results are compared with the number of words looked up in the dictionary. In the second category, the process by which learners look up words is recorded.

2.6.2.1. Result-oriented investigations

The investigations reported in this section are concerned with either or both of the following issues:

a. incidental vocabulary learning; i.e. the amount of words learners are able to pick up while reading texts and not paying attention to vocabulary learning;

b. the effect of dictionary use on reading comprehension.

Luppescu & Day (1993) gave 293 first and second-year EFL students in Japan a 17-item unexpected vocabulary test after they finished reading a short story containing the target words. One group of the students could use their bilingual dictionaries while the other group were not allowed to use their dictionaries. The authors found that the mean measures of the dictionary group in the vocabulary test were about 50 per cent higher than that of the non-dictionary group. However, with some items the dictionary group had greater difficulties than the non-dictionary group. These items were polysemous words with a large number of meanings listed in their entries (p. 274).
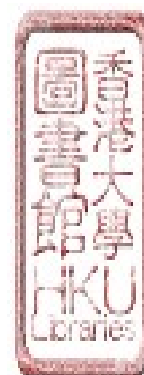
Luppescu & Day believe that their investigation provides support for the claim that "the use of a bilingual dictionary can significantly improve indirect or incidental vocabulary learning" (p. 271). Because their groups were "identical" except for the use of dictionaries, the authors "conclude that any difference in vocabulary learning, as reflected in performance on the present test, was due to the use of dictionaries" (p. 276). These conclusions, however, have to be treated with caution, as the research methodology in Luppescu & Day's study has severe drawbacks. In the first place, there was no control over which bilingual dictionaries were used, or whether the subjects in the dictionary group did indeed use their dictionaries. Secondly, the researchers had no way of knowing whether their subjects looked up the target words. Thirdly, and this seems to be the weakest point, it was not established before the experiment whether the target words were indeed unknown to the subjects. Considering some words in the target list, such as 'medicine', 'to happen', 'clear', 'terrible', 'strange', and 'worse', it is hard to believe that they would be unknown to university students who "had completed 6 years of English instruction in high school" (p. 266). Declaring such words, all of which belong to the 2000-word defining vocabulary of the LDOCE[17] , as target words is counterproductive to the aim of the research which was to prove that these words were learned through dictionary use.

Knight (1994) investigated incidental learning from reading and the influence of two factors: a) access or no access to a bilingual dictionary, b) subjects' level of verbal ability. 105 intermediate learners of Spanish were divided into two ability levels: high and low verbal ability, defined with the median of their results on the American College Test. After reading two short magazine articles with about twelve unknown target words each, the subjects had to write recall protocols as a measure for reading comprehension. Afterwards, they were tested on vocabulary learning with unexpected vocabulary tests: a supply-definition test, in which an English equivalent or a definition of the target word had to be supplied, and a select-definition test, in which the students had to select one out of four English definitions.

In the reading comprehension test, the dictionary group had a significantly higher mean score than the control group (p. 292). The analysis of the vocabulary test

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[17] 'worse' which is in fact a grammatical form is not part of LDOCE's defining vocabulary, but its positive adjective 'bad' is.
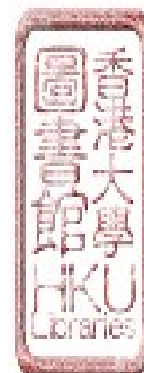
scores also showed that the subjects with dictionary access scored significantly higher on both immediate and delayed tests (pp. 290/1). Dictionary access gave the low verbal ability subjects a special advantage. It was within the low verbal ability group where the significant difference in reading comprehension between dictionary users and no-dictionary users occurred. Within the high verbal ability group the difference was not significant. On the select-definition test, the low verbal ability students in the dictionary condition were able to learn almost as many words as the high verbal ability students in the same condition (51% versus 55%). The correlation between the number of words looked up and the scores on vocabulary tests was again higher for the low verbal ability group than for the high verbal ability group (p.293).

The finding that intermediate students, especially those with low verbal ability, benefit from bilingual dictionary use in both text comprehension and incidental word learning is validated by Knight's sound research methodology. In order to establish that all of the targeted words were indeed unknown, she conducted a pre-test. Reading texts and vocabulary tests were presented on the computer. The computer program recorded the words each subject looked up. It could therefore be established whether a word that was known in the vocabulary post-test had indeed been looked up[18]. Unlike Luppescu & Day, Knight distinguished between different degrees of learning: a greater number of words was learned in the select-definition test where only recognition of words is required. Subjects achieved far lower scores on the supply-definition test where a more productive knowledge of words is necessary (for the discussion of different levels of word knowledge cf. 2.1.2.).

Knight's findings contradict those of an earlier study. Bensoussan, Sim & Weiss (1984, cited in Knight 1994: 286) compared reading comprehension scores of subjects in three different conditions: with access to a monolingual dictionary, with access to a bilingual dictionary, and with no dictionary access at all. They found no significant correlations between dictionary use and test results. Knight explains the contradictory results by the proficiency level: While the participants in her own study

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[18] The computer as an unobtrusive observation instrument has been used in several studies (for instance: Hulstijn 1993, Chun & Plass 1996).
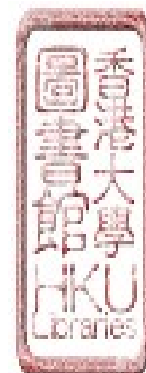
had only reached the intermediate level, Bensoussan, Sim & Weiss' subjects were advanced learners who relied less on the dictionary for text comprehension (p. 293).

Nesi & Meara (1991) replicated their study with more careful attention to some variables which were not explained by Bensoussan, Sim & Weiss: the types of dictionaries used, the reading comprehension test, and the language ability of the subjects. Nesi & Meara's investigation consists of two experiments. In the first one, the correlation between dictionary use and the results in the multiple choice test was not significant (p. 634). In the design of their second experiment, the researchers controlled the variables 'dictionary' and 'user', by permitting only one dictionary, the OALD, and by matching the dictionary and the non-dictionary groups. Nevertheless, there was still no significant difference in test scores between those who had access to a dictionary and those who did not (p. 636). By contrast to Bensoussan, Sim & Weiss' findings, however, the subjects who had a dictionary available took significantly longer to finish the test. By further examining the variables, Nesi & Meara found the following explanations for the lack of a significant difference:

1. the test itself: only one of the fifteen multiple choice questions depended on the comprehension of individual words;
2. the dictionary: the OALD did not always provide the necessary information to answer the comprehension questions for the technology-oriented text;
3. the users: they did not identify some words in the text which were relevant to answer the question; on the other hand they looked up words which were irrelevant for the test questions (pp. 639 – 642).

These findings are important for the design of research into the effect of dictionary use on reading comprehension. Despite the large sample sizes in Bensoussan, Sim & Weiss' experiments, altogether around 1500 subjects (cf. Nesi & Meara 1991: 631), their results are not conclusive because various uncontrolled variables may have affected them.

While the result-oriented studies make to a certain extent clear whether users have consulted their dictionaries successfully or not, they do not provide information about the reasons for success or failure. Some investigators used error analysis in order to find such reasons. They closely examined errors in sentences which learners produced with unfamiliar words they had looked up in dictionaries (Maingay & Rundell

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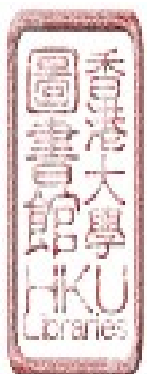
1987; Nesi & Meara 1994). With this method, Nesi & Meara identified five different behaviour patterns which accounted for the majority of errors. The first, 'kidrule', means that learners pick out familiar segments from the dictionary entry and, when composing sentences, substitute the target words with these segments. This strategy was first observed in children using the dictionary by Mitchell (1983) and Miller & Gildea (1985; cited in Nesi & Meara, pp. 3 – 5). In the following example from Miller & Gildea's data a child read in the dictionary:

meticulous very careful or too particular about small details

When asked to compose a sentence with 'meticulous', the child wrote:

I was very meticulous about falling off the cliff.

This example illustrates how a familiar segment in the definition, in this case 'careful', is mistaken for the meaning of the unknown word.

In Nesi & Meara's data, 'kidrule' was responsible for "just under a quarter of all errors" (p. 9). While the finding that even adult learners show this behaviour so frequently is surprising, the research method is too limited to give indications why 'kidrule' is used. For instance, it may be possible that learners resort to 'kidrule' if they know only few or no other words in the definition.

The other four behaviours leading to errors are: failing to apply grammatical information provided by the dictionary, failing to choose appropriate lexical collocations, confusing words which looked or sounded similar to one another, or rejecting information from the entry which did not match the subjects' preconceived notions of what words meant (p. 11). The last behaviour, however, appears to be based more on conjecture than on empirical evidence, as the subjects do not express themselves what their preconceived notions of a word are. Finding no "clue" in the dictionary entry as to why certain words were used incorrectly does not allow the conclusion that preconceptions were at work. To ascertain whether preconceptions prevent successful look-ups, a research method must be employed which reveals what learners are thinking when looking up words.

For this reason, the think-aloud method was employed in this thesis. While the above study draws evidence from two sources, i.e. performance data and the dictionary

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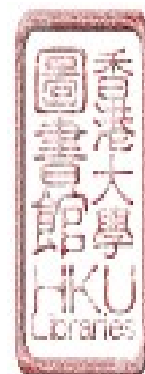
entries, in this research a third source, i.e. learners' thoughts, will provide deeper insights into look-up behaviours and their reasons.

2.6.2.2. Process-oriented investigations

Process-oriented research includes any method by which learners are observed when they look up words in the dictionary. There are very few studies in which the attempt was made to monitor the process of dictionary consultation.

Atkins & Varantola devised a "paper equivalent" of the think aloud protocol in order "to monitor the dictionary look-up process in as natural a situation as possible" (1997: 2/3). Unlike result-oriented studies, the researchers did not rate the correctness of their subjects' choices, but recorded "the level of user satisfaction after each search" (p. 3). The subjects worked in pairs, with one partner using dictionaries for translation tasks, and the other recording every step of the look-up actions on a recording sheet. The data from the recording sheets was computed, and the details of 1000 look-ups made by 103 subjects were analysed. Although this methodology for a process-oriented survey of a large number of participants certainly has potential, the quantitative analysis of the data reduced its information value almost to the level of the earlier questionnaire studies. Because the answers had to be keyed in, the Recording Sheet was structured too rigidly to allow insights into the look-up process in the same way think-aloud data does. The researchers themselves point out the limitations of their database: For instance, the sequence of different look-ups within one search cannot be traced back (p. 12), it cannot be determined whether a search really rendered the appropriate information (ibid.), or whether the subjects' search strategies were adequate (p. 20). Some questions[19] which might have provided more in-depth knowledge about the reasons for dictionary consultation and the usefulness of entry components did not yield satisfactory answers, because they proved too difficult to answer (p. 7). Therefore the main results of Atkins & Varantola's investigation are more or less identical with those from the questionnaire studies (cf. 2.6.1.):

1) the participants consulted dictionaries mostly in order to find a translation (p.16);
2) they preferred bilingual dictionaries (p. 32);

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[19] For instance No. 6, asking which component of the dictionary entry had produced the useful information (p.43).
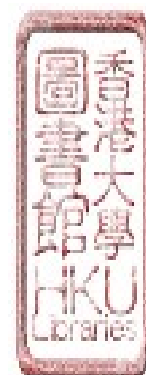
3) their look-ups in bilingual dictionaries were more successful.

The last finding can partly be explained by the fact that the monolingual dictionary was often consulted only after a series of bilingual look-ups had failed (p.19). A more surprising finding was that in 40 percent of the searches the dictionary users believed they had failed to find the information they looked for (p. 20). Again, the research methodology made it impossible to analyse the reasons for this finding. As the authors point out themselves, "...statistics have rarely any value other than that of indicating possible trends in the behaviour of the groups involved" (p. 36).

In order to obtain a clearer picture of what is going on during dictionary consultation, qualitative studies focusing on individual behaviours are needed. One method employed for the direct observation of dictionary use was to ask learners to write user protocols. Wiegand (1985, cited in Zöfgen 1994: 47/8) instructed learners using a German monolingual dictionary to write down information on the process in a structured protocol format. Wiegand was especially interested in grammatical information which his subjects obtained from the dictionary. The method of user protocols he assesses as capable of providing empirical data about

a) the user behaviour of individual users in specific user situations;

b) the specific type of questions with which users address the dictionary;

c) the way in which users find answers from the lexicographic data provided by the dictionary (Wiegand 1985: 69, cited in Müllich 1990: 6).

Neubach & Cohen (1988) sought answers for seven research questions concerning the use of bilingual and monolingual dictionaries by obtaining think-aloud protocols. Their subjects were six Hebrew speakers; two students each came from high, intermediate and low-level EFL university courses. In the first task, the subjects had to read ten individual sentences and look up one polysemous target word from each sentence, first in the monolingual and afterwards in the bilingual dictionary. Then they had to supply the word meanings in Hebrew. They were requested to think aloud during the dictionary consultations. The second task aimed at finding out how effective the dictionary is in an authentic reading comprehension, and what dictionaries the subjects would prefer. While reading a passage of 150 word with ten underlined target words, the choice was left to the subjects whether they wanted to use a dictionary at all, and which type of dictionary they used. Again, verbal protocols
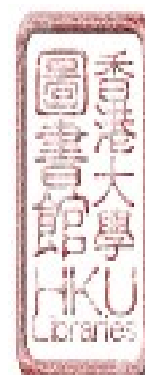
of the look-up actions were collected and the subjects had to provide the meaning of the target words in their native tongue, as well as a short summary of the text. The authors report their findings by research questions. The results which are relevant for this thesis are summarised below:

1) Strategies employed by the subjects and problems they encountered using monolingual and bilingual dictionaries for Task 1:

a) Subjects read only the first definition in monolingual dictionary entries. A low-proficiency student believed that "the rest were just examples" while an advanced student found that the first meaning usually gave him the general idea of the meaning (p. 7).

b) Low-proficiency students experienced problems with the vocabulary in the definitions; students of all proficiency levels found the abbreviations, acronyms and terms in definitions difficult (ibid.)

c) The desired meanings were sometimes not found in the dictionaries (pp. 6 – 8). However, as these findings are presented without any figures given, it is unclear whether the reported strategies and problems were just individual ones or more common trends.

2) Student proficiency related to strategies and outcomes: High-proficiency students consult the dictionary after having formed correct hypotheses at the sentence and word level. Not surprisingly, they usually find the right answers in the dictionaries. By contrast, low-proficiency learners have incorrect expectations, and have sometimes not even determined the part of speech of the target word before they consult the dictionary. During consultation, they experience problems with the vocabulary in the definition (pp. 8/9). In other words, proficient learners do not need or do not use dictionaries much, because they can infer word meanings, while low proficiency learners, who need them, are not able to use them effectively because of inferior strategies and vocabulary knowledge.

3) The effect of specific word searches on strategies and outcomes: When words had fewer cues in the reading context, the subjects experienced more problems in formulating correct hypotheses, and thus more problems in finding the meaning in the dictionary (p. 9).

4) The effectiveness of the dictionary for reading comprehension in Task 2: The dictionary did not offer much help in reading comprehension. Although the low-proficiency students could not get the meaning of specific words, they achieved a

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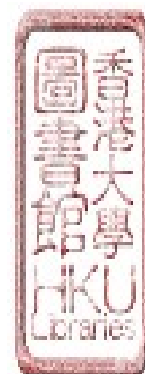
global understanding of the text (p.10). This finding, however, is somewhat irrelevant, because it is influenced by the reading comprehension task: as the researchers only asked for a short summary, they could not expect their subjects to look up and understand words most of which are not important for the global understanding of the text.

5) and 6) The dictionary preference of students: the two high-proficiency students preferred the monolingual dictionary, because they felt that it gave them more precise meanings of words. The intermediate and low-proficiency learners preferred the bilingual dictionary. Accordingly, during Task 2 the high-proficiency learners would use the monolingual dictionary exclusively, while the low-proficiency used the bilingual exclusively. The intermediate learners referred to the monolingual dictionary occasionally, when they were not satisfied with the information in the bilingual one (p.11).

In addition, Neubach & Cohen discovered problems inherent in the dictionaries themselves: the entries for five of the ten words in Task 1 were lacking in some respect: For instance Hebrew equivalents were in the wrong register, or some of the necessary meanings were not included at all. The subjects also experienced difficulties with lay-out features in the dictionaries, such as small print and crowding (pp. 11/2).

In Neubach & Cohen's investigation the process of dictionary consultation was monitored by introspection. Thus, they were able to provide insights into learners' strategies and problems that could not have been revealed by other research methods. However, the results should have been reported more systematically and precisely. Although Neubach & Cohen collected performance data, there is no account of the subjects' success in using dictionaries in correlation to the type of dictionary, their proficiency level, and the tasks. There is also no report on the frequency of observed behaviours or problems. As common in qualitative studies, the findings form interesting hypotheses which have to be validated by further research.

Müllich (1990) conducted research into monolingual dictionary use by foreign language learners (45 learners of French and 63 learners of English) in upper classes

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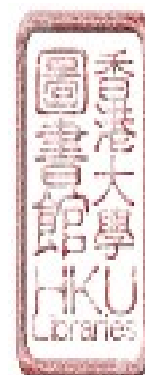
(sixth-form) of German secondary schools. The students used the dictionaries for translating French or English texts into German. Müllich collected data through a combination of user protocols and think-aloud protocols. Unlike the studies reviewed above, Müllich was able to identify factors in the definitions that caused problems as well as actual learner strategies. The main findings concerning problematic definitions are the following:

1) The level of abstraction in one French dictionary, the Micro-Robert[20] was too high for the learners, so that guessing from context turned out to be more successful than consulting the dictionary. The main problems were the unrestricted and difficult defining vocabulary and the "amtsprachliche" [bureaucratic] defining style, i.e. a style with a highly complicated syntax. Look-ups often became a "langwierige Quälerei" [prolonged drudgery]. Quite commonly the difficulty of the definitions resulted in "Scheinbenutzung" [pseudo use], when the subjects believed they had found the right meaning in the dictionary, but in fact had only confirmed a preconceived idea by partially understood information from the definitions (pp.178/9).

2) By contrast, the English dictionaries (OALD, LDOCE, COBUILD) were used more successfully by Müllich's subjects. This is due to the fact that many definitions use rather short synonymous phrases which are easy to comprehend (p.296).

3) The greatest difficulty for the subjects in both languages was to reach a complete understanding of all the components of definitions (p. 297), and to put "the different components back together to constitute a fully adequate equivalent" (p. 488).

The following learner strategies were identified by Müllich:

1) The subjects selected from the definitions those senses or semantic elements which they could understand rather than those which were appropriate. They tend to look for equivalents and treat short definitions or segments of the definitions as synonyms which they translate into their L 1 (p. 179 - 180). These strategies were previously identified in language production and named 'kidrule' (Nesi & Meara 1994, cf. 2.6.2.1.)

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[20] This is one of two dictionaries permitted as an aid in exams by the school authorities in Bavaria, where Müllich conducted his study. Some of the deficiencies of the Micro-Robert described by Müllich are mentioned in this review, because they resemble the deficiencies in the LGDaF (cf. 2.5.2.1. for defining vocabulary and 2.5.2.4 for complex defining language).

2) The subjects constantly translated definitions segments or whole definitions into their mother tongue, "thus multiplying the errors caused by mistranslation or the confusion of similar words, and counteracting the purpose of the monolingual dictionary by using it almost as a bilingual one" (p. 489). This puts the belief that monolingual dictionaries help learners to think and understand meanings purely in the target language into doubt (p. 180). However, this behaviour was certainly enforced by the task, i.e. translating texts from L2 to L1.

3) As Neubach & Cohen (1988: 7) also observed, the subjects tend to read only the first meaning in the dictionary entries, and often totally neglect the other senses (p. 296). The same finding surfaced in a study by Tono (1984, cited in Cowie 1999: 188/9).

Again, the introspective, process-based research methodology led to in-depth findings about actual problems as well as actual learner behaviours that occur during dictionary use. Unfortunately, Müllich presents these findings rather unsystematically in a bullet-point format, spread over different chapters. Had they been categorised and summarized as hypotheses, further research to test these hypotheses could be more easily conducted.

The studies reported above have a similar scope to this research, by comparing different dictionaries, and by investigating their effectiveness for learners of certain proficiency levels. It will be interesting to see whether the think-aloud investigation in this thesis confirm findings of both Neubach & Cohen's and Müllich's studies concerning the problems encountered with the definitions as well as the learner strategies.

2.6.3. Research into the comprehensibility and effectiveness of different definitions types

There are a number of studies which compare different dictionary types, such as monolingual, bilingual and bilingualised dictionaries (Laufer & Hadar 1997; Laufer & Kimmel 1997). The comparison of different defining styles, however, is so far a rather neglected research area. Only a few investigations aim at obtaining empirical results which could have an impact on lexicography. One reason for this research gap is that until 1987 only one type of definition, the lexicographic one, prevailed.

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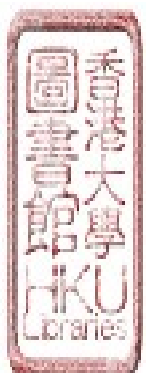
MacFarquhar & Richards (1983) were the first to investigate how second language learners evaluate the comprehensibility of definitions in several monolingual dictionaries. Shortly after the arrival of the first LDOCE, they were especially interested in the effect of the restricted defining vocabulary. Therefore they compared three types: the LDOCE (1980) with its defining vocabulary of 2000 words, the OALD (1974) which aims at making definitions as simple as possible while not using a special defining vocabulary, and Webster's New World Dictionary (1972) which "makes the least effort to limit its definitions to simple words" (p. 115). A sample of sixty words was selected and the three definition types for each word were assembled on sample cards. Each word was then evaluated by 30 different learners with intermediate to advanced proficiency in English. For 51 percent of the definitions the subjects judged that the LDOCE was the easiest to understand, for 28.5 percent the OALD was found to have the most comprehensible definitions, and for 20 percent of the entries Webster's scored highest. There was no significant difference in the evaluation of higher or lower proficiency level subjects (pp. 119 – 121). MacFarquhar & Richard did not carry out performance tests to ascertain whether the LDOCE definitions were indeed those which were best understood by the subjects. They could have, for instance, asked their subjects to compose sentences with the target words, or to write down the meaning of the target words in their native language. If the learners' perceptions had been correlated with performance data, there would have been empirical evidence of the suitability of these definitions types for learners.

MacFarquhar & Richard's results indicate a clear preference of learners for definitions written within a controlled defining vocabulary. The fact that more recent editions of the OALD have restricted their defining vocabulary[21] shows that lexicographers and publishers do take notice of such findings.

Tickoo (1989: 189) mentions preliminary results of a questionnaire-based study conducted at the SEAMEO Regional Language Centre in Singapore. They show that graduate teachers of English in Asia prefer COBUILD's explanations to definitions with a controlled defining language.

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[21] *According to Yorkey (1997: 118), OALD5 (1995) uses a vocabulary of 3500 words for defining.*
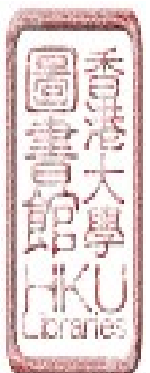
Cumming, Cropp & Sussex (1994) undertook a comparative evaluation of the LDOCE's and COBUILD's definition formats. 85 intermediate to advanced ESL students participated; the word sample consisted of twenty low-frequency words: ten adjectives and ten verbs. There were four experimental conditions: LDOCE definition only, COBUILD definition only, LDOCE definition + example, COBUILD definition + example. Each subject was given eight words, two for each condition. For each word they had to rate the "Initial Helpfulness" of the definition before producing a sentence containing the target word. In the last task, the so called "Comprehension" task, the subjects had to determine in which three out of six sentences the target word was used correctly (p. 372). After completing the tasks for the eight words, the participants rated on a scale the "Final Usefulness" of the four definition types, and gave them a rank order of preference. According to this rank order, 71 percent preferred the COBUILD definition + example, followed by 27 percent who ranked LDOCE + example first (p.373). While the rank order of preference revealed that that most subjects want to receive the fullest information possible, i.e. COBUILD definition + usage example, the ratings for Final Usefulness showed that the COBUILD definitions were clearly considered superior to the LDOCE ones, with or without an example (p. 374). Interestingly, there was no correlation between the subjects' preference or their evaluation of usefulness and their results on the production and comprehension tests (p. 375). In other words, although most participants found COBUILD definitions preferable and more useful, they did not perform significantly better than when using the LDOCE. The conclusion could be that the four information formats do not differ in their usefulness. However, Cumming et al warn that the limitations of the experiment may have influenced the results (p. 377). For instance, only two word classes, verbs and adjectives, were included, and the amount of eight words may be too small for a comprehensive evaluation. Furthermore, the words were presented without context, so that the subjects had no chance to assess the usefulness of the dictionary information in a more authentic situation, i.e. in combination with contextual clues. Another possible interpretation of the results is to regard the proficiency level of the participants as an important factor: intermediate to advanced learners may find the full-sentence format more comfortable while they are equally capable of coping with the LDOCE's traditional definition style. For learners at a lower proficiency level, however, the defining style could influence their

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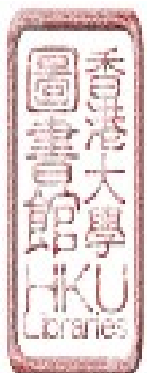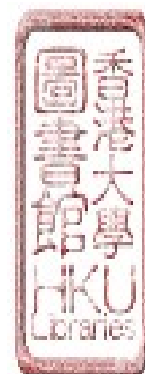
performance, as they might benefit from the longer, full-sentence definitions in COBUILD. This hypothesis is certainly worth exploring, and is one of the aims of this thesis.

In Nesi and Meara's (1994) study, which was discussed in 2.3.2.1., the effectiveness of OALD's, LDOCE's, and COBUILD's definitions for the production of sentences was compared. However, the authors focus on the type of errors induced by dictionary definitions, and little information is given on the subjects' performance in relation to the three dictionaries. There was no significant difference in the error frequency between the three groups apart from one error type: the OALD group made significantly more semantic errors (p. 8). Semantic errors ranged from total misunderstanding of the meaning of words to an understanding of the basic meaning, but ignorance of connotations and possible collocations. No details of the subjects' proficiency level are given, and there is no explanation why the OALD definitions caused more semantic errors.

Kostrzewa's (1991) study is partly process-oriented, because he used retrospection in order to identify factors which make definitions easier or more difficult to understand. He compared the effectiveness of LDOCE and COBUILD explanations with explanations written by himself. Four short texts were given to the subjects, who were German university students with advanced proficiency in English. The texts and the explanations of the fifteen target words were read twice to the subjects. After the reading, the subjects were asked to supply the L1 (German) equivalent. The test was later repeated in order to assess the retention of the target words. In follow-up interviews the subjects were asked to retrospect and report which features in the explanations hindered or helped their understanding.
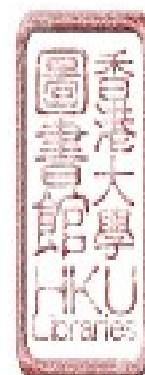
Generally, Kostrzewa found that the length of an explanation influenced understanding. Words with longer explanations were better understood and better retained. Therefore the subjects who were given Kostrzewa's self-written explanations scored higher, as these explanations contained more propositions and a larger number of redundancies than the definitions of both dictionaries. Redundancies, as described by Kostrzewa, are either repetitions of defining segments in a modified format, for instance by using near-synonyms, or illustrative

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examples (p. 103). The test results showed that explanations with several redundancies were understood and retained well (p. 104). The positive effect of redundancies was confirmed by the subjects in the retrospective sessions (p. 107). Through retrospection Kostrzewa also found out which words in the three different explanation types were unknown to the subjects. In some cases words from outside the LDOCE defining vocabulary impeded the understanding of explanations. According to the findings from the retrospection, other reasons for superiority of the self-written explanations were: a) the percentage of unknown words was lower (2.3%) than in LDOCE (3.8%) or COBUILD (6.1%) (p. 108), and b) the syntax was simpler, as mostly main clauses were used (p. 110).

There were more interesting findings which reveal psycholinguistic and cognitive processes at work when learners try to understand definitions. Some subjects stated that their understanding was severely blocked if lexical or syntactic problems occurred at the beginning of the explanation (pp. 106/7). A corresponding finding was obtained by manipulating the explanations, i.e. putting the unknown item in different positions, and then comparing the test results. By doing so, Kostrzewa found that if the unknown lexical item appeared towards the end of the explanation, the scores for understanding and retention were the highest. Obviously the unknown item in an initial position is more likely to cause a mental block. A third finding corresponds to what Müllich describes as the difficulty of understanding all components of a definition and assemble them to a fully adequate equivalent (1990: 297, 488, cf. 2.3.2.2.). A number of Kostrzewa's subjects, although they understood the explanation, were not able to find a translation equivalent in their L1 (1991: 106).

However, some flaws in his research restrict the validity of Kostrzewa's results. The different groups consisted of only 8 – 9 subjects, a number far too small to obtain quantitative results of any significance. The test results are only presented as mean scores, so that it remains unknown how much variability there was. Neither the results of a pretest, with which the proficiency level of the participants was assessed, nor the method by which the subjects were assigned to the different groups are reported. Therefore the results might be due to large differences in the language skills between the groups. A further problem lies with the assessment of word retention. After the first vocabulary test, the subjects had a break of twenty minutes, before the delayed

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test was administered. This time period seems too short for the claim that the previously unknown items were retained in memory. Knight (1994), for instance, presented the delayed test two weeks after the experiment. The qualitative data from the retrospection could have yielded more reliable results, had there not been another methodological problem concerning time: the retrospective interviews were held two days after the reading. The difficulty with using "delayed retrospection" was pointed out by Cohen & Hosenfeld (1981: 303); often the subjects cannot remember relevant details after more than one day. The retrospection was elicited with a semi-structured interview; this interview, however, was not tape-recorded, the interviewer took merely notes. This procedure raises doubts whether the data collection was complete and accurate.

If Kostrzewa's findings would be confirmed through sounder investigations, they could form a valuable basis for improvements in learner lexicography. Both Müllich's and Kostrzewa's results indicate that even for users with advanced language proficiency a certain restriction of the defining vocabulary and a simpler syntax are beneficial. A promising avenue of research is also the investigation into the effectiveness of redundancies in definitions as well as into the position of the target word. Conclusive findings could have a major impact on definition writing.

More evidence for the effectiveness of these definition features is expected from the research in this thesis. Among the defining criteria for the definitions written for this thesis were restricted defining vocabulary, a simpler syntax as well as redundancies. These criteria are further discussed in Chapter 5. The think-aloud studies in this thesis aim at support for the hypothesis that these criteria make definitions easier to understand for learners.

2.7. Summary

The present state of research does not give satisfactory answers to the research questions of this thesis; i.e. 1) which dictionary is most effective for intermediate learners, and 2) what features make monolingual dictionary definitions effective for intermediate learners (cf. 1.4.4.). As far as the effectiveness of either the bilingual or monolingual dictionary for learners is concerned, there has been an ongoing discussion with hardly any research basis. The need for more in-depth research into
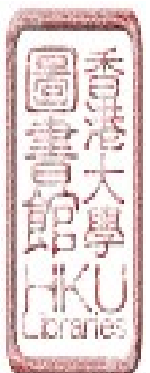
how learners work and cope with the two dictionary types has been widely recognised. As a result of the research gap, it is unknown which type provides the optimal information for intermediate learners, and justified recommendations about the right dictionary for the right proficiency level cannot be made.

With regard to the second research question, it has not been investigated which features make monolingual dictionary definitions effective. For pedagogical reasons, many educators regard the monolingual dictionary as the superior one. However, the compilation of monolingual learners' dictionaries has been and still is driven by lexicographic tradition rather than learners' needs. Traditional features in definitions, for example the classificatory description of meaning by genus proximum and differentia specifica, may be useful in dictionaries for native speakers. For L2 learners, however, such features create linguistically difficult definitions. A variety of suggestions for improvements in learner lexicography have been made, and many user-friendly features have been incorporated into modern learners' dictionaries. Especially, English learners' dictionaries have progressed considerably towards user-friendliness since the first edition of the LDOCE in 1978. By contrast, the first German learners' dictionary, the LGDaF, which was published only in 1993, still relies to a certain extent on the traditional approach. Therefore, the defining style of the LGDaF seems to be more difficult for learners than that of English dictionaries, especially the full-sentence definition format of COBUILD. However, more research is needed in order to find out which features facilitate better understanding of monolingual definitions by intermediate learners.

There are only a few empirical investigations that have dealt with this question. The relevant empirical research into dictionary use so far has been mainly concerned with: (a) the context of dictionary use, i.e. what dictionaries learners prefer, for what activities they use them, and what type of information they need; and (b) the effectiveness of dictionaries for certain purposes, for instance reading comprehension. In most studies performance data is analysed in order to assess how successfully learners used their dictionaries. However, such result-oriented studies reveal little about the problems learners encounter when trying to understand definitions. There have been only two process-oriented investigations in which learners' problems with the use of monolingual dictionaries were identified through

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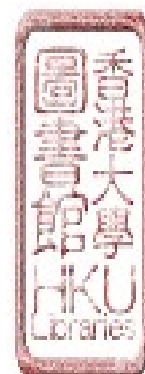
introspective data (Neubach & Cohen 1988, Müllich 1990). Of the few investigations into the effectiveness of different definition formats only one closely examined the factors which make them more comprehensible to learners (Kostrzewa 1991).The results indicate that the length of the definition, the provision of redundancies, the defining vocabulary, as well as the position of the unknown lexical item influence understanding. Because of some methodological problems in this study, however, these findings are tentative and have to be validated by further research.

As has been shown above, there are research gaps concerning the questions which dictionary type, bilingual or monolingual, is more effective for intermediate learners, and which defining style is effective for these learners. The aim of this thesis is to find answers to these questions and provide conclusive results which lead to informed recommendations about the most effective dictionary for intermediate learners, as well as to lexicographic recommendations about the most effective definition format. Another important aim in this research is to use a sounder methodology than some of the studies reported above, which have methodological shortcomings either in the data collection procedure (for instance Luppescu & Day, cf. 2.6.2.1, Kostrzewa 1991, cf. 2.6.3.) or in their methodological account (for instance Neubach & Cohen 1988, Müllich 1990, cf. 2.6.2.2.), impeding the validity and reliability of their results. The methodological framework for this thesis is discussed in the following Chapter.
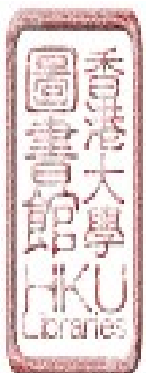
Chapter 3: Methodology

3.0. Introduction

The main aim of this research is to identify the most effective dictionary type for intermediate learners of German for understanding the meaning of unknown words in reading texts. The research consists of two distinct parts: first, the comparison of the effectiveness of bilingual and monolingual dictionaries, and second, the comparison of the effectiveness of two different monolingual definitions styles.

In order to establish which dictionary type and which definition type is more helpful for learners, quantitative and qualitative evidence is needed. It is not sufficient to find out that a larger number of learners cope better with a certain dictionary. It is also essential to investigate what difficulties learners experience when looking up words in different dictionaries. Only when it is known which learner or dictionary factors contribute to success or failure, can methods be developed to enhance successful dictionary consultation, either through improvements in learners' strategies, or through improvements in dictionaries. As was explained in Chapter 2, few researchers have so far investigated the process of dictionary consultation.

Therefore, in both parts of this thesis complementary research methods were used: in experiments, the effectiveness of the different dictionary and definition types was measured quantitatively, and in introspective studies, the process of dictionary consultation by individual learners was observed.

In this Chapter, the instruments and procedures which were used in both parts will be described.

3.1. Part 1: The comparison between the bilingual and the monolingual dictionary

The aim was to find out:

1) which type of dictionary Hong Kong Chinese intermediate learners prefer for their foreign languages studies;

2) which of the two dictionaries, bilingual or monolingual, is more helpful for intermediate learners for reading comprehension and vocabulary acquisition;

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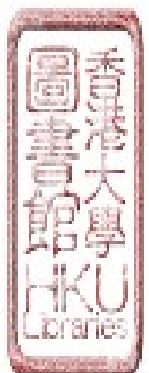
3) which are the factors that make one dictionary type more effective.

In order to answer the first question, a questionnaire was developed and administered to 97 foreign language students in two Hong Kong universities. For the second question, an experiment was carried out in order to establish whether the users of the bilingual dictionary are, as hypothesised, significantly more successful. A small think-aloud study followed in order to find factors for successful and unsuccessful look-ups in both dictionary types.
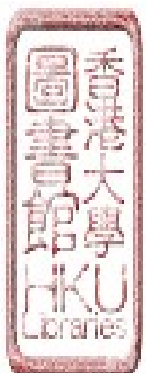
3.1.1. The survey

The survey can be regarded as a prerequisite for the experiment. Its main purpose was to find confirmation for the observation that most Hong Kong Chinese students of German use German-English (L2) instead of German-Chinese (L1) dictionaries (cf. 1.2.). Only after evidence was obtained on which type of dictionary the subjects prefer, could the effectiveness of this dictionary be tested in the experiment. The survey was not only conducted with learners of German, but also with learners of French. The aim was to investigate whether the preference for a bilingual dictionary with English as the explaining language is just a matter of a particular language, such as German, or whether this preference is more widespread, perhaps being the result of Hong Kong's particular language education (cf. Chapter 1.3.).

3.1.1.1. Research questions

The main research question for the survey is what type of dictionary intermediate foreign language learners use, and why. In addition, some information about the learners' dictionary use in their L2, English, and their instruction in the use of dictionaries is sought.

1. What type of dictionary do Hong Kong Chinese foreign language learners at the intermediate proficiency level prefer, the FL-English, FL-Chinese, or the monolingual dictionary?
1.1. What type of dictionary do they use for their L2, English?
1.2. Have the learners already tried to work with the FL monolingual dictionary?
2. Why do the learners prefer that type of dictionary?
2.1. Why do the learners not use the other types of dictionaries?
2.2. Which aspects do the learners find useful in their dictionaries and which aspects should in their view are improved?

3. Where the learners taught how to use a dictionary?
    3.1. Where were they taught and which type of dictionary were they taught to use?
    3.2. Which information categories do the learners mainly look for in their dictionaries?

3.1.1.2. The questionnaire

The questionnaire was designed with the aim of avoiding the methodological weaknesses which Zöfgen (1994: 36 – 39; cf. 2.6.1.) criticised in earlier questionnaire studies. One weakness was a lack of focus: research questions were not clearly specified, and the surveys attempted to cover too many different aspects of dictionary use (for instance Béjoint 1981, Battenburg 1991). Another point of criticism was that the participants of some studies had no homogenous background (for instance Hartmann 1983). In addition, some questionnaires contained metalexicographic questions (for instance Béjoint 1981, Battenburg 1991), thus overestimating the subjects' ability to understand and use the terminology, as well as making informed judgements about their dictionaries.

The questionnaire in this study (cf. Appendix 3.1. for the questionnaire for learners of German) investigated four areas:

a) The subjects' general background: Although the questionnaire is anonymous, there are some questions concerning personal data, such as age, sex, educational level (Questions 1 - 3). The subjects who filled in the questionnaire for this study came from the same age group and educational background. However, the questionnaire was designed with the aim of using it for further research, and will be administered to intermediate learners of other foreign languages in different language schools in Hong Kong. Three more questions were included for further research: What was the final grade in English, either at the Hong Kong Certificate of Education Examination (HKCEE/ O levels) or at the Hong Kong Advanced Level Examination (HKALE /A levels) (Question 4); which languages does the subject know (Question 5); and which languages is the subject currently studying (Question 6). For a wider research context, the purpose of these question is to correlate language proficiency in English and possibly the knowledge of a larger number of languages with preferred dictionary use and success in dictionary use.

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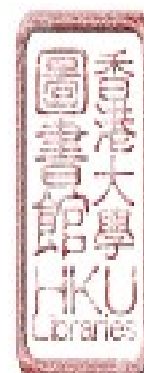
b) The subjects' preference for either bilingual or monolingual dictionaries in the foreign language they are studying, i.e. German or French, and in their L2, English (Questions 10 and 7). The reason to ask for the preferred dictionary in the L2 was to find out whether the subjects are conditioned by their second language to use mainly the bilingual dictionary. They were also asked whether they have ever tried to work with the monolingual dictionary in their foreign language (Question 11). It was expected that the answers to this question would yield some information about the confidence and attitude of intermediate learners towards the monolingual dictionary. It was hypothesised that the majority regard themselves as not yet capable of using the monolingual dictionary.

c) The subjects' assessment of the dictionaries: There were three open questions, the first of which asked why the learners use/do not use the FL monolingual, the FL-Chinese or the FL-English dictionary (Question 12). Although open questions are more difficult to analyse than closed questions, it was decided not to narrow down the range of possible answers by providing a list of answers to choose from. This way the subjects were able to give a full description of their reasons without being influenced by the researcher's suggestions (cf. Foddy 1993: 127). The second and third question ask which aspects learners regarded as "good" in the dictionary they use, and which aspects should be improved (Questions 14 and 15). The answers were expected to provide some insight into what information types and other aspects in dictionaries are important for intermediate learners.

d) The subjects' previous dictionary training and main purpose of dictionary use: The research question in this area is whether the subjects were taught how to use a dictionary, where they were taught (primary/secondary school, university), and which type they were taught to use, bilingual, monolingual or both (Questions 8 and 9). It was expected that the answers could provide explanations for other findings in this thesis, for instance the subjects' appropriate or inappropriate strategies for dealing with lexicographic conventions[22]. In a further question the subjects were asked to indicate on a five-point scale, ranged from 'very often' to 'never', which information they use their dictionary for (Question 13). This question has been asked by a number of other researchers (Bejoint 1981: 215, Hartmann 1982: 82, Snell-Hornby 1987: 167, Summers 1988: 114) before, with

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[22] It is generally interesting to find out how Hong Kong students were prepared for using an important tool in their bilingual education.

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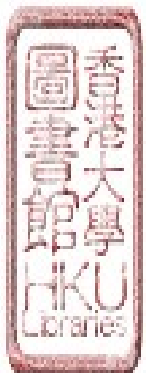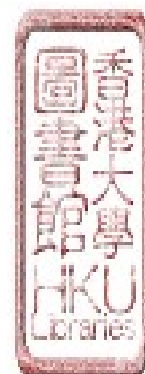
the result that learners use their dictionaries mostly to find the meanings of words. If the result is the same in this study, it will confirm that in this thesis a central aspect of dictionary use is being investigated: the search for the meaning of unknown words in reading texts.

Metalexicographic terminology was avoided in the questionnaire as far as possible. For the following reasons the language of the questionnaire was English: Firstly, all subjects went through Hong Kong's bilingual secondary school system and were taught most subjects in English (cf. 1.3.) . Secondly, the subjects' native language, Chinese, is not used in the teaching of the foreign languages, i.e. German and French. At the beginners' level, when the target language cannot yet be used for explanations, English is the medium of instruction. Therefore, metalinguistically they could probably express themselves better in English than in Chinese. It was considered inappropriate to use the foreign language in the questionnaire, as the subjects had reached only the intermediate proficiency level. Their lack of proficiency might have impeded their understanding and correct answering of the questions. The fact that two target languages, German and French, were involved would have made the analysis of the questionnaire more complicated.

The questionnaire was piloted with 10 second-year students of German in 1997. Some expressions which might have caused misunderstandings were amended.

3.1.1.3. Subjects

The subjects for the survey were from a homogenous background: as second-year students of two quite similar undergraduate programmes, they were of similar age (20 – 22 years) and of the same educational background. In order to get admitted to their language-oriented university courses, they had to fulfill the minimum requirements of HKALE Grade D in English as well as in the subject Chinese Language and Culture. For the reasons explained in 3.1.1., the subjects were learners of two different foreign languages, German and French. In order to avoid the influence of too many learner variables, only learners of French and German could be included in this study, as these two languages are studied in exactly the same course format in two universities, Hong Kong Polytechnic University and Hong Kong Baptist University. The subjects were 47 students of French and 50 students of German at the end of

their second year in degree courses where German/French is the major component and taught semi-intensively. At the time of the survey, all subjects had received

~~between 100 and 500 hours of instruction. In order to obtain the above number of~~

subjects, the questionnaire was handed out to the second-year students in two

~~consecutive years, 1998 and 1999.~~ This means that the students of German were also the participants in other studies of this thesis. The students who were given the

3.1.1.4. Data analysis

~~The survey's purpose was to identify the subjects' most preferred dictionary type and~~

~~thus prepare the ground for the experiment. Although it would be interesting to~~
measure the interaction of different factors such as language proficiency and dictionary preference, this is beyond the scope of this research. For the above purpose descriptive statistics suffice. The preferred dictionary type in L2 and L3, the information on dictionary instruction, and the main information types sought from the dictionary are reported by frequencies. For the open-ended questions, categories were established by going through the responses and looking for the same type of

~~results are reported in Chapter 4.1.~~

In the first experiment of this thesis, it was tested whether either the German-English bilingual or the monolingual dictionary is more effective for reading comprehension and vocabulary acquisition by intermediate learners of German. As explained in 1.4.3., reading comprehension was chosen as the context for this research, because

This experiment was a partial replication of Knight's study. Knight's research method seemed particularly suitable, especially as the research questions are the same in this study with only the dictionary conditions being different (cf. 2.6.2.1.). As was discussed in 2.1.1., another reason for the partial replication of Knight's study was that research into dictionary use so far did not provide much consistency in terms of research designs. The aim of replicating Knight's research instruments and

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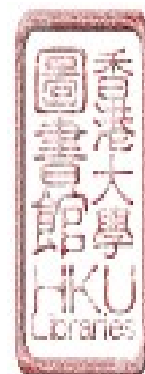
procedures was producing results that could be compared and thus could contribute to a more comprehensive picture of the effectiveness of dictionaries on reading comprehension and incidental vocabulary learning.

Knight compared the use of bilingual dictionary use versus no dictionary use. This research investigated which type of dictionary, bilingual or monolingual, facilitates better reading comprehension and incidental vocabulary learning by intermediate learners.

3.1.2.1. Research questions

It was argued in 1.2., that the German-English bilingual dictionary may not be sufficiently effective for the Hong Kong Chinese subjects. However, because the subjects' proficiency in German was only at the intermediate level, the underlying hypothesis for the experiment was that the bilingual dictionary would be more effective than the monolingual dictionary. It was expected that particularly weaker learners wold benefit from the use of the bilingual dictionary.

1. Which dictionary type, the German-English bilingual or monolingual is more effective for reading comprehension and vocabulary learning for Hong Kong Chinese intermediate learners of German?
   1.1. Do the learners who use the bilingual dictionary learn more words incidentally while reading than those who use the monolingual dictionary?
   1.2. Do the learners who use the bilingual dictionary comprehend texts better than those who use the monolingual dictionary?
2. Do particularly learners with lower verbal ability learn more words incidentally and comprehend texts better when using the bilingual dictionary?

3.1.2.2. Instruments

In order to measure the effectiveness of the different dictionaries on reading comprehension and incidental word learning, appropriate reading texts had to be chosen, target words in the texts had to be identified which were likely to be unknown to the subjects, and could be tested after reading and dictionary consultation, and appropriate reading comprehension and vocabulary tests had to be developed.
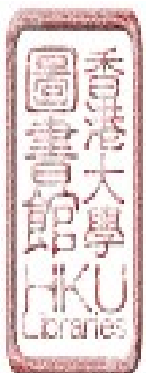
3.1.2.2.1. The reading texts

It is widely agreed that language learners should be presented with authentic reading texts from the beginning of their language courses (Allen et al. 1988: 164, Bernhardt & Berkemeyer 1988: 6). It has also been recognised that the manipulation of texts can affect the validity of research studies on reading comprehension and incidental word learning (Knight 1994: 286). Authentic texts, however, can pose serious linguistic, particularly lexical problems for intermediate learners. Therefore care was taken to choose texts which were linguistically not too demanding. Four German instructors from two different universities in Hong Kong, who are experienced in teaching intermediate learners, selected two magazine articles from a choice of four. The selection criteria were the suitability of the topics, the length of the texts, the perceived text difficulty, and the ratio of unknown to known words.

The two authentic articles with similar readability levels came from the popular German news magazine 'Focus'. This magazine usually contains relatively short informative articles which are linguistically not too difficult. The reason for using two short of articles of the same genre instead of one longer text was the same as Knight's, "to control for comprehension floor and/ or ceiling effects" (1994: 288). In other words, if a subject's comprehension of one text is blocked through, for instance, the lack of background knowledge, but he fulfils the tasks with the second text, the results can be accounted as due to text variables rather than other variables.

The topics of the articles were rated as suitable for the subjects, i.e. interesting and familiar enough. The familiarity of the topic is important, because knowledge schemata can be activated as guiding structures in comprehension (Wolff 1987: 309) and the learners can to a certain extent compensate with their world knowledge for linguistic difficulties.

The first article, *Kinderarbeit für Eden* (Text 1; Appendix 3.2.), deals with child labour, a topic of awareness in Asia which the Hong Kong media cover from time to time. It reports on allegations that a large Austrian-owned company in Thailand had used child labour for the production of textiles mainly sold to Germany. The second article, *Nüchtern in den Tag* (Text 2; Appendix 3.3.), reports on a survey in Switzerland which revealed the unhealthy eating habits of teenagers. The topic of unhealthy nutrition
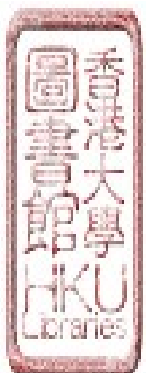
and its effects on young people is also a familiar one for the subjects from Hong Kong, and generally of interest for young adults.

Text length was another criterion, when the texts were selected. Research has found that even beginners were able to cope with 250 – 300-word authentic texts (Allen et al. 1988: 170). Following Knight's (1994: 288) rationale, the aim was to choose texts with a length of around 250 words, so that the immediate recall protocol could be used as the reading comprehension measure (cf. 3.1.2.3.). Text 2 fulfils the length requirement with 246 words. For Text 1, however, the criteria of suitability took preference over length. Although it was slightly shortened, it still consists of 293 words.

Text 1 was rated by the judges to be slightly more difficult than Text 2, because it contains some indirect speech as well as structures describing alleged actions[23]. In comparison, Text 2 contains a number of redundancies, such as semantic repetitions[24], as well as the repetition of syntactic structures, which presumably facilitate understanding.

In order to obtain an objective measure of the difficulty of the two texts, they were analysed by the LIX formula. The LIX formula for the analysis of readability of foreign language texts was also used by Knight (1994: 288). The number of words in a text is divided by the number of sentences. The total is added to the number of long words, i.e. longer than six letters, multiplied by 100 and then divided by the number of words in the text. Contrary to the judgement of the four raters, the LIX formula identified Text 2 as slightly more difficult with the value of 37.19, than Text 1 with the value of 36.63. According to Laveau (1985: 40), LIX values between 35 – 40 indicate a readability level of "easy to average".

However, this assessment by the LIX formula has to be treated with caution. The limitations of this readability formula become obvious through a closer look at the

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[23] For instance phrases with the modal verb *sollen*.
[24] The fact that the teenagers do not eat breakfast, for instance, is stated in several phrases: *Nüchtern in den Tag; In den Tag ohne Frühstück/ Frühstück ist out/...starten die Jugendlichen nüchtern in den Tag.*
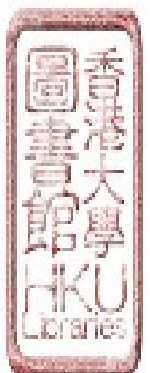
texts. In the shorter Text 2, six different words appear up to four times, while in Text 1 only one word is used three times and five others twice. If the formula would count word tokens instead of the number of words, the ratio would be quite different. A widely recognised problem with readability formulas is that they are based on word and sentence length, but do not take into account concreteness, organisation and content of texts. They are text-centered and do not take notice of learner factors (Allen et al. 1988: 164, Davies 1995: 87). Weaver & Kintsch point out that readability formulas are still in widespread use, despite the fact that "...at best these formulas provide a scandalous oversimplification, more frequently a serious distortion" (1991: 242).

The fourth selection criterion, the ratio of unknown to known words, is related to the identification of target words, and will be discussed in the following section.

3.1.2.2.2. The target words

23 target words were identified as likely to be unknown to the subjects by the following method. Lists were drawn up with those content words from the texts which are not part of the Basic Word List (Deutscher Volkshochschulverband, Goethe-Institut 1985: 157 - 503). The Basic Word List is discussed in more detail in 5.2.1. It contains 2227 lexical items, which is the obligatory vocabulary for the first standardised proficiency test, the *Zertifikat Deutsch als Fremdsprache* [Certificate German as a Foreign Language] at the end of the elementary level. Learners who study German as a foreign language abroad usually take this test after approximately 450 hours of instruction. However, the textbooks during the elementary course are not restricted to the 2227 words of the Basic Word List, but present a vocabulary of around 3000 words. In order to find out which words were likely to be unknown to the subjects, lists with words from four different texts were given to the four judges. The two texts chosen for this study had the lowest density of unknown words, according to the judgement of the four teachers. Liu & Nation (1985: 33) call a low density text one which has 1 unknown word in 25 words, while a high density text has a ration of 1: 10. They found that high density affected their subjects' ability to guess word meanings from context (ibid: 35).

Those words which were rated as unknown by at least three of the four judges were declared the target words of the study. There were 12 target words in Text 1 (five nouns, four verbs, two adverbs and one idiomatic expression) and 11 target words for Text 2 (eight nouns, two verbs and one adjective).

In Text 1, one target word ('Vorwurf') appears twice, while in Text 2 three target words ('Aufklärung, Ernährung, nüchtern') appear twice. This can affect the word learning results, because words which are encountered in context twice or more are more likely to be learned than words which are encountered only once (Nation & Coady 1988: 103, Hulstijn at al. 1996: 328).

Because incidental word learning was to be tested, the target words were not marked in the reading test, so that the subjects' attention would not be drawn to them.

3.1.2.2.3. The vocabulary tests

In 2.1.2., it was discussed that word learning can be regarded as a continuum between the initial making sense and the complete knowledge of a word which includes, according to Nation (1990: 31), knowing its form, position, function and meaning. In this study, 'word learning' was used in the same restricted sense as in Knight's study, i.e. a target word was considered as learned when the meaning it carries in the reading context was understood. The knowledge of a target word was operationalised as it was by Knight (1994: 288), i.e. as the ability to supply a correct equivalent or paraphrase, as well as the ability to select the right definition in a multiple choice test.

In order to ascertain that the target words were indeed unknown to the subjects, a pretest was administered before the experiment. The pretest was a checklist with 92 items in which the subjects had to mark the words they know (cf. Appendix 3.4.). This type of test was first developed by Anderson & Freebody (1983, cited in Nation 1990: 81) to measure learners' vocabulary size. For the purpose of just establishing whether certain words are known or not, this test type is economical, as it is easy to develop and does not require the test-takers to fulfil tasks such as writing down definitions or equivalents. To ensure the validity of the subjects' answers, the test contains a certain number of non-words. Non-words were created by replacing letters

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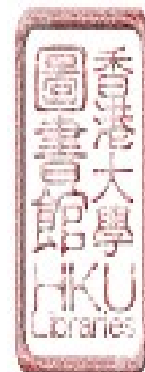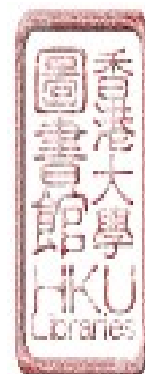
in real German words (for instance ga_rtlich instead of ga_stlich) or by creating new words with German spelling and affixes (for instance *Basiertheit*). The pretest consists of the 23 target words, 24 non-target words from the two texts, 31 general words and 14 non-words. The reason for including 92 items was to prevent the subjects from focusing on the target words and learning their meaning before the experiment. 26 non-target words were included in order to check whether the projected density of unknown words was correct, or whether there were considerably more unknown words in the texts.

Two types of tests were used in order to measure different levels of word learning. For both tests the decision was made to exclude Chinese as the language for the test instructions, test items, as well as subjects' answers. This decision was based on the fact that the subjects' medium of instruction at secondary school was English (cf. 1.3.). Also, the results of the survey showed that the subjects rely a great deal on English as the medium to learn German (cf. 4.1.). In addition, Chinese does not play any role in the subjects' learning of German. The medium of instruction for all subjects is German, and at the beginners' level English would be occasionally used for explanations.

In the supply-definition test (SDef) the subjects were asked to supply equivalents or definitions for the 23 target words in either English or German (cf. Appendix 3.5.). The second test was a select-definition or multiple choice test. For this test, a further decision concerning the language had to be taken, i.e. whether the answers should be in English or in German. As this study is based on the hypothesis that students using the German-English bilingual dictionary would be more successful, it was felt that English answers would further disadvantage the subjects who had used the monolingual dictionary. On the other hand, there would be strong support for the hypothesis if the subjects who had used the bilingual dictionary still scored better on the multiple choice test, despite the German answers (cf. Appendix 3.6.).

As in similar studies (Knight 1994, Luppescu & Day 1993: 268), the multiple-choice test has five choices per item: one key, three distractors, and the option 'I don't know'. As multiple choice answers are difficult to make, the test was designed with the help of another German teacher and pre-tested with a group of twelve learners from a

more advanced proficiency level. Care was taken that all items were in the same part of speech, but not too closely related to each other in meaning (cf. Nation 1990: 82). The pre-testing of the multiple-choice test helped to ensure that the right answer could not be found through the definition itself, and that none of the distractors was so obviously wrong that the choices were narrowed down.

3.1.2.2.4. The reading comprehension test

As discussed in Chapter 2.2.1., immediate recall protocols are considered to be the most valid measure of reading comprehension, and are used much in reading research. For this reason, immediate recall protocols were chosen as the test measure for this research. Using this test type also allows the comparison of the results with those of other studies, mainly Knight's (1994).

The immediate recall protocol is a test that is "easy to construct and administer", as Bernhardt (1993: 32) points out. All it requires is to instruct the subjects to write down everything they remember after they finished reading the text. The instruction is in most studies given prior to reading, although Lee (1986: 206/7) did not find conclusive evidence that subjects who were given directions before reading achieved significantly higher recall scores than those who had not been informed about the task. In this study, as in Knight's (1944: 288), the subjects were informed about the recall task before reading. The instructions on the test sheet were given in English and the subjects were asked to recall in English (cf. Appendix 3.7.). The reason for not using the subjects' L1, Chinese, was already explained in 3.1.2.3. As the subjects have to write all their assignments at university in English, it was expected that recalling the reading texts in English would be natural for them, and not affect the recall results. The target language, German, was not chosen as the language of recall, because research evidence shows that subjects writing in the target language recalled significantly less than those writing in their L1 (Lee 1986: 207/8, cf. 2.1.2).

It should be pointed out here that testing the effectiveness of dictionaries by the above vocabulary and reading comprehension tests has certain limitations: incidental vocabulary learning is influenced by more factors than just the understanding of a word after looking it up in the dictionary. Textual, word, learner, and situational factors support or discourage word learning from texts (Paribakht & Wesche, 1999: 199). In

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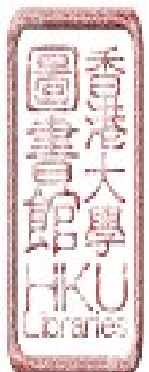
the same way, there are a number of other factors which determine the outcome of reading comprehension (cf. 2.2.). However, the test methods were chosen in replication of Knight's study, in order to provide comparability of results (cf. 3.1.2.).

3.1.2.3. Subjects

A general problem for researches into the learning of languages other than English is to find enough subjects (cf. Müllich 1990: 3 – 5, Kostrzewa 1991). Although there are altogether approximately 900 students of German at different universities in Hong Kong, their teaching formats and other variables differ too much for a comparison. Also, the majority of learners are below the proficiency level required for this study. There are per year only 25 – 30 undergraduate students from both Hong Kong Polytechnic University (PU) and Hong Kong Baptist University (BU) who study in a similar course format with German as a major component. At PU, German is taught in the course *BA: Languages with Business* with 8 hours per week and four hours self-study; at BU, German is taught 12 hours a week in the course *BA (Hons): European Studies*. These students reach the intermediate proficiency level at the end of their second year (fourth semester) at university.

All subjects were about to take the *Zertifikat Deutsch als Fremdsprache* [Certificate German as a Foreign Language]. This certificate testifies to intermediate proficiency in German, according to the International Certificate Conference's (ICC)[25] classification (Raasch 1995: 125; cf. 3.1.2.2.2.).

During the fourth semester, all the subjects had been encouraged by their German instructors to start using the monolingual learner's dictionary. As explained in 1.2., there is a short presentation of some monolingual dictionary entries in the subjects' textbook of that semester, and usually about one lesson will be spent on dictionary exercises. The purpose of these exercises is to raise the learners' awareness of the different information types available. However, as educators have pointed out, such a short introduction is certainly not sufficient for learners to use the dictionary efficiently. The necessary reference skills require more training (Scholfield 1982: 193), and

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[25] The ICC developed standardised proficiency tests for different levels for many European languages.

dictionary practice should not be limited to one lesson, but regularly integrated into classroom activities (Heath & Herbst 1985: 584, cf. 2.4.2.).

Because of the limited student numbers, the experiment had to be carried out in two stages in two years. Stage 1 of the experiment was conducted with 14 second-year students from PU and 14 second-year students from BU in May/June 1997. Stage 2 took place in May 1998 with 11 second-year students from PU and 11 second-year students from BU. Although the total of 46 subjects could be achieved by conducting the experiment in two consecutive years, the number is still relatively small for experimental research.

The subjects were divided into high verbal ability and low verbal ability groups according to the mean score of their test results in the second semester of their second year. On the scale of 50 – 100 points for pass marks, 75 points was the dividing grade to assign students to the high (all grades including and above 75 points) or low verbal ability (all grades including and below 74 points) group. The 23 subjects in the high verbal ability group had a mean score of 81.95 points (SD = 4.4). The 23 subjects in the low verbal ability group had a mean score of 62.04 points (SD = 6.8). The allocation of students into these groups was then confirmed with their language instructors. Within the two groups, the subjects were randomly assigned to either the bilingual or monolingual dictionary user group. Table 3.1. illustrates the grouping of subjects.

Table 3.1. Allocation of subjects to groups

Ability University Condition	High verbal ability			Low verbal ability			
	PU	BU		PU	BU		
	n	n		n	n		n
Bilingual dictionary access	6	6	12	6	6	12	24
Monolingual dictionary access	6	5	11	5	6	11	22
n	12	11		11	12		46
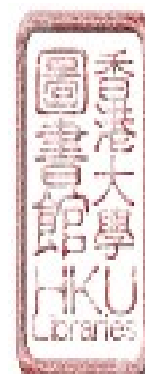
3.1.2.4. Procedures

A computer program was developed for the experiment[26]. The computer as an instrument for the "unobtrusive observation" (Hulstijn 1993: 139) of learners looking up words for reading comprehension has been used in several studies (Hulstijn 1993, Knight 1994, Chun & Plass 1996). While research into learning processes has been beset by methodological problems, the use of the computer improves observational conditions. Insights can be gained into the look-up behaviour during reading without obtrusive, potentially interfering methods such as video-recording or note-taking. The computer records reading time, which words were looked up and how often, without the subjects being aware of it. Unlike other observation methods, with the computer a large sample can be tested. In contrast to previous studies in which it remained unclear whether the subjects had indeed looked up the target words (Luppescu & Day 1993, Hulstijn, Hollander & Greinadus 1996), the program recorded precisely which words were looked up by each subject.

The computer program runs on WINDOWS 95 and consists of a researcher program and a student program. The researcher program offers different windows to feed in the texts, and to mark and define the target vocabulary. It stores information on contents, sources and authors of the texts, as well as details about the compiler, and the dates when the texts and word explanations were fed in and last upgraded. The prepared texts are copied from the researcher's program to the students' program, which is used for the presentation of the texts and target words to the students. The students cannot access the texts before they have typed in their personal details such as name, student number, and name of university.

During reading, the students can click on unknown words in the texts. Depending on whether the word is a target word, a window with the word explanation appears on the screen. The program records all look-up actions including those for non-target words. For each text the subjects receive a diskette which contains the text, and the

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[26] The program was customised by the Hong Kong Polytechnic University's Information Technology Services Department for this study and another research project, in which the use of a glossary during reading is being investigated.

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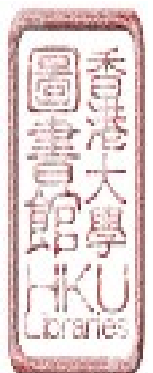
word explanations from either the bilingual or monolingual dictionary. When the subjects finish reading, they have to exit WINDOWS and leave the diskette in the disk drive for another minute, during which time all the information about the individual subject, such as personal details, reading time and look-up actions, is stored on the DOS level. After the experiment the following information can be printed out:

1) a 'Target Word Report' about the number of subjects who looked up the individual target words, and the frequency and average frequency with which these words were looked up;

2) a 'Student Result Report' which includes the personal details of each subject, the time s/he spent reading the text, all the word s/he looked up, and how often s/he looked up individual words.

Unlike the computer program used by Knight (1994: 288), this program does not have the capacity to include the tests as well. The recall and vocabulary tests were presented and written on paper.

The word explanations fed into the computer program were the original dictionary entries from either the bilingual or the monolingual dictionary. The bilingual dictionary was the *Langenscheidt New College German Dictionary German-English* (LNCGD), because this was the one available to the subjects of both universities in their self-study units. The monolingual entries were taken from the LGDaF, which was at that time the only monolingual learners' dictionary for German (cf. 1.1.). In order to simulate actual dictionary use, the entries appearing on the computer screen looked exactly like the ones in the dictionary, with the same entry structure, typeface, number and ranking of word meanings, abbreviations and grammatical patterns.

Two weeks before the experiment, the subjects were given the checklist pretest. In Knight's study (1994: 288), students who had ticked any of the targeted words as known in the pretest were eliminated. Because the sample in this study is rather small, the elimination of subjects could not be afforded. Instead, if students ticked one or a few target words as familiar in the pretest, and then gave correct answers for the same words in the two vocabulary tests, these words were not counted as 'learned' in the quantitative data analysis. In several cases, however, it turned out that subjects did in fact not know words they had ticked as 'known' in the pretest. This became obvious when the answers for these words in the vocabulary tests were incorrect.
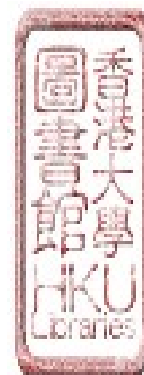
The experiment took place in the computer laboratory. Each subject was given a diskette with the first text, which had been programmed for either bilingual or monolingual dictionary use, according to his/her assigned dictionary condition. As incidental learning was to be tested, the subjects were not informed beforehand about the vocabulary tests. This method was also followed by Knight (1994), Chun & Plass (1996), Hulstijn et al. (1996), and Hulstijn, who explains the rationale as follows:

> "If we had told Ss in advance that they would be tested afterwards, they would have invoked all kinds of rehearsal and memorisation techniques, interfering with the effect of the initial processing of the word meanings." (1992: 116)

Incidental vocabulary learning occurs during reading, when the focus is on the reading task, but not on word learning (cf. 2.1.1.). Accordingly, the subjects were informed about the reading comprehension task in advance (cf. 3.1.2.2.4., Knight 1994: 289).

The instructions how to use the program were given orally before the test. On the computer screen, on top of the reading text, there were more instructions as to how to access the word explanations (cf. Appendix 3.8.). These instructions were also shown on the Overhead Projector during the experiment. Again, all instructions were in English. The subjects could take as much time as they wanted for reading. After they finished reading and exited one test, they were asked to write the recall protocol, before they were given the diskette with the second text. The unexpected vocabulary tests were administered after all subjects had finished the second recall protocol. The supply-definition test as the more difficult one which taps a deeper word knowledge was administered first. If the easier multiple-choice test had been carried out first, it would have offered the subjects an additional learning opportunity as well as the chance to just repeat its answers in the supply-definition test.

In some studies testing incidental vocabulary learning (Knight 1994, Chun & Plass 1996), delayed vocabulary tests, identical to the previous ones, were conducted two weeks after the experiment in order to establish whether the vocabulary had been retained. Delayed tests were not possible in this study for organisational reasons. The experiment with the students from PU had to be conducted in the last week of term, so that they would have reached roughly the same proficiency level as the BU

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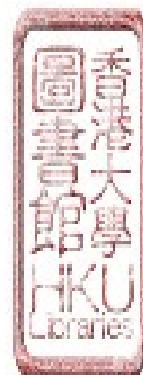
students who had received a larger amount of instruction. After the end of term, it would have been impossible to assemble the subjects for another test. Therefore, the type of word learning which was assessed in this study is not only limited to one aspect of word knowledge, as discussed in 3.1.2.4., but also to short-term knowledge. On the other hand, it could be argued that delayed tests lack validity, as there is no way of controlling whether the subjects encountered some of the target words again between intermediate and delayed tests. It is even likely that some subjects make an effort of finding out the precise meanings of target words, feeling that they have not understood them well in the test.

3.1.2.5. Data analysis

The small sample size restricted the choice of the statistical procedure. Originally, the one-way ANOVA with between-group design was chosen. The research questions asked which dictionary type is more effective for incidental vocabulary learning and reading comprehension, and whether the effect is different for different verbal ability levels (cf. 3.1.2.1.). Accordingly, dictionary condition (bilingual versus monolingual) was the independent variable with two levels, i.e. high versus low verbal ability in each dictionary condition. One-way ANOVA was to be carried out on the vocabulary and reading comprehension test scores as the dependent variables. However, summary statistics on the tests scores showed that the data were not normally distributed, as was to be expected with the small sample size. Because the 46 subjects were divided into four groups, namely two for each dictionary condition and two for verbal ability level, the individual groups consisted of only eleven or twelve subjects. A representative sample, however, should have a size of at least 30 for the distribution to be close enough to a normal distribution (Hatch & Lazaraton 1991: 235). As one of the basic assumptions of ANOVA, i.e. the normal distribution of the data, was not met, a less powerful non-parametric test had to be used. The non-parametric equivalent of the one-way ANOVA is the Kruskal-Wallis test. After the Kruskal-Wallis test indicated that there was a significant difference between groups, the Ryan post-hoc comparison was conducted to determine where the difference was located.

The following sections describe how the scores for the vocabulary tests and reading comprehension were obtained.

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3.1.2.5.1. The analysis of the vocabulary tests

The supply-definition test was scored by two independent judges. Knight's method of distinguishing between correct answer (one point), partial knowledge of the word (half a point) and incorrect answer (zero points) was considered to be unsuitable. Knight's subjects supplied equivalents or paraphrases of the target words in their mother tongue, English (1994: 288). In this study, the subjects supplied equivalents or paraphrases in their L2, which they do not use with the correctness of a native speaker (cf. 1.3.). While it is presumably easier to discover partial knowledge in the answers of native speakers, for the subjects of this study the borderline between partial knowledge of a word and linguistically incorrect paraphrases is hard to draw and leaves too much room for speculation. Therefore only the distinction between correct and incorrect answers was made (1 versus zero points). However, a liberal view of some linguistic errors in the subjects' answers was taken. For instance, a common mistake observed in Hong Kong Chinese learners is mixing up the different parts of speech (cf. 6.2.1.1.). If the meaning of a word was understood, but was supplied in the wrong part of speech, the answer would be counted as correct, as the following examples from the supply-definition test shall illustrate:

Table 3.2. Word meanings supplied in the wrong part of speech

Target word	Correct equivalent	Student answer
1. aus der Luft gegriffen	1. made up	1. make up from nothing
2. Unterversorgung	2. lack of something	2. not enough
3. Vorwurf	3. accusation	3. to say someone is wrong/ to accuse someone

Since the vocabulary tests served as measures for the effectiveness of the two dictionary types, of the correct answers only those words were counted as 'learned' which has been looked up by the subjects. These were listed in the computer result sheets for each individual subject.

The two judges scored the test independently, and interrater reliability was .95. In the multiple-choice test, one point was given for each correct answer.
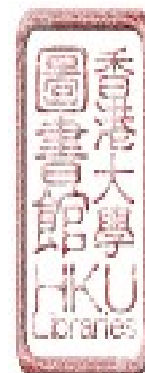
3.1.2.5.2. The analysis of the recall protocols

Recall protocols are more problematic to evaluate than other tests of reading comprehension, mainly because the data in the format of written texts are not easily quantifiable. Quantifying recall data is not only more difficult, but also more time-consuming. Different scoring techniques have been used by researchers, and as Wells points out,

> "The biggest hindrance to the use of the recall protocol procedure in foreign language classrooms has been the lack of a valid scoring method" (1986: 179).

The usual procedure is to divide the reading texts into "meaningful segments" (Bernhardt 1983a: 29) or "idea units" (Lee 1986: 205), and to count how many of these units are represented in the readers' recall protocols. However, not all idea units carry equal importance in a text, and therefore the Meyer recall protocol scoring system (cf. Bernhardt 1991: 201, Wells 1986: 180) represents the text hierarchically into a "macroproposition level" describing the rhetorical clause relations, and different "micropropositional levels" below (Wells ibid.). The different levels are assigned point values for scoring. Idea units with the least importance to the meaning of the text are positioned in the lowest level and receive the lowest scores.

Although this scoring system is regarded as "construct valid" and reliable (Wells ibid., Bernhardt 1991: 202), it has the disadvantage that it is time-consuming. Bernhardt (ibid.) reckons that developing a scoring template takes between 25 to 50 hours per 250-word text. In addition, scoring each student protocol takes between one-half hour and one hour. Furthermore, the development of the instrument requires considerable expertise.
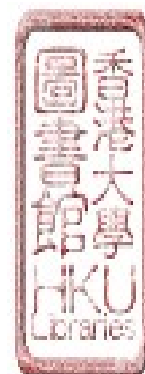
For these reasons, the less complicated Johnson system of weighted propositional analysis is often preferred, for instance by Knight (1994: 289). In this system, the texts are divided into "pausal units", a text unit "that has a pause on each end of it during normally paced oral reading" (Bernhardt 1991: 208). Each pausal unit is then ranked in terms of it saliency to the meaning of the text. Obviously, this scoring system is easier to develop, as it does not require such a detailed structural analysis of the texts.

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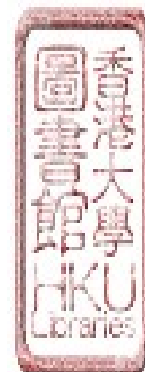
The Johnson system of weighted propositional analysis was used as a basis for the protocol data analysis in this study, but slightly adapted. Three German teachers read the two texts and split them into units. Although they achieved 89 percent agreement, they divided the text into much wider units than those described by Bernhardt (ibid.: 209). While Bernhardt found that pausal units coincided with syntactically related units (such as *in the morning* or *the old man*), the German judges felt that splitting the texts into so many and such narrow units would mean overrating the importance of some units, but not really increasing the accuracy of the scores. They also felt uncomfortable with units that reflect no more than a breathing pause during reading, and opted for units that represent propositions. Therefore, depending on their propositional content, some units in the German texts consist of single clauses and others of one or two sentences. The units were assigned from 1 to 4 points, according to their importance for the overall meaning of the text. The final version of the scoring instrument was not achieved by independent rating, but by discussion between the three judges.

The units were listed in chronological order on a 'Checklist for reading comprehension' (cf. Appendix 3.9.). There was one checklist for each judge per text and per student. Next to each unit the number of possible points was presented with a blank space, in which the raters could fill in the number of points a student achieved for his recall of that unit. The maximum score was 52 points for Text 1 and 35 points for Text 2.

The recall protocols were analysed by two judges. Depending on how correctly the subjects recalled the individual units, they were assigned part or all of the unit points. The two judges were supposed to score the protocols independently. However, the rating procedure turned out to be more difficult than expected, because often the subjects' propositions contained only partially the content of the ones in the text, or two or more propositions from the text were combined into one sentence in the recall protocol. In cases of doubt, the assessment was achieved by discussion between the two judges.

3.1.3. The small-scale think-aloud study

Two think-aloud studies were conducted in this thesis. The first, small-scale one aimed at identifying reasons for successful and unsuccessful look-up actions in the bilingual and the monolingual dictionary. The second think-aloud study involved a larger number of subjects and compared different definition styles. In the following passage, the sections 3.1.3.1. and 3.1.3.2. refer only to the small-scale study. However, the procedures were the same for both think-aloud studies, and are described in 3.1.3.3.

3.1.3.1. Research questions

The small-scale think-aloud study in which the use of the bilingual and monolingual dictionary was compared had a heuristic objective. Because the process of dictionary consultation has hardly been investigated, the factors that facilitate or prevent successful look-ups are unknown. The aim of this study was to find any kind of reasons why the subjects did or did not look up words successfully in either dictionary condition. The underlying research question was the same as in the previous experiment, i.e. which dictionary type is more effective for intermediate learners. For triangulation, the subjects had to carry out the same reading comprehension and vocabulary tasks as the subjects in the experiment.

1. Which dictionary type, the German-English bilingual or monolingual is more effective for reading comprehension and vocabulary learning for Hong Kong Chinese intermediate learners of German?
2. Which factors cause successful and unsuccessful look-ups?

3.1.3.2. Instruments

The same reading texts and tests were used as in Part 1 (cf. 3.1.2.2.). Unlike the experiment, the subjects did not work with the computer program, because the aim in this first introspective study was to investigate the variety of problems learners can encounter with dictionaries. As the computer program offered already the appropriate entry when a word was clicked, one problem area, i.e. locating the word in the dictionary, would have been excluded. Therefore, the think-aloud study resembled a natural reading situation in which the dictionaries, the LGDaF and the LNCGD, were consulted in book format.
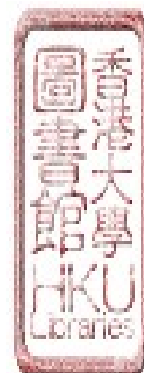
3.1.3.3. Subjects

The four subjects for the small-scale introspective study were selected from the two classes of second-year students from PU and BU, with whom the experiment was conducted (cf. 3.1.2.3.). The subjects were recommended by their instructors for the think-aloud tasks, because they were outgoing and talkative. Both subjects (BL1 and BL2) who worked with the bilingual dictionary and one subject who worked with the monolingual dictionary (LG3) belonged to the high verbal ability group. The second subject in the monolingual dictionary condition (LG6) belonged to the low verbal ability group but was with an average grade of 70 points not far off the dividing grade of 75 (cf. 3.1.2.3.).

3.1.3.4. Procedures

As was discussed in 2.3.1., the validity of the introspective method of thinking aloud has been frequently challenged. It was even described as an "underdeveloped methodology" by Pressley and Afflerbach (1995: 119), because the authors found that a large number of studies lacked specificity and accurate methodological accounts. The requirements for detailed methodological descriptions (ibid: 120 – 123), as well as Ericsson & Simon's (1987: 37, 1984/1993; cited in Pressley and Afflerbach 1995: 7 – 13) guidelines were observed carefully in the think-aloud procedures in this thesis.

Among the required descriptions, which have not yet been covered in 2.3.1., are those of
a) the directions given to subjects, and the reminders given during reading;
b) the interaction between subjects and researcher;
c) the practice conducted before the think-aloud session.

3.1.3.4.1. Directions for the think-aloud task and interaction between subjects and researcher

According to Ericsson & Simon (1984/1993, cited in Pressley and Afflerbach 1995: 10), the directions should discourage the subjects from explaining why they are carrying out a cognitive process. It would affect further processing if the subjects tried to analyse their thoughts.

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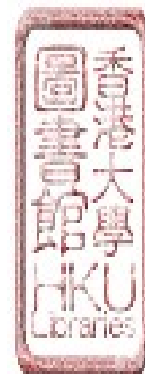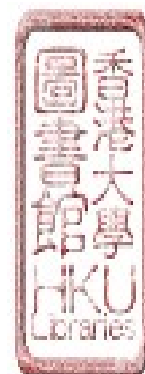
Therefore, the subjects were instructed to say aloud everything that came to their minds during reading, and especially during dictionary consultation, without trying to explain anything to the researcher. They were encouraged to ignore the researcher's presence as much as they could. It was expected that the subjects would indeed express their thoughts "unedited and unanalyzed" (Cohen 1987: 84), if they felt that no explanations were expected.

The interaction between subjects and researcher consisted of reminders to talk, if they fell silent for a longer period. The subjects were not interrupted when they first read text passages silently. They were reminded to talk when they seemed to think about the text or the dictionary entry, usually after 5 or more seconds. Mostly the phrase "Keep talking" was used as a reminder, which is least likely to elicit self-observation or the subjects' desire to interpret their thoughts for the researcher (Ericsson & Simon 1987:37). Occasionally, questions like: "What are you looking up?" or "What does the word mean?" were asked, when the subjects' utterances did not reveal the answers. These questions were necessary, because the think-aloud protocols had to provide the main evidence of whether and why subjects had or had not understood a word. How often the individual subjects received reminders depended on their willingness to express their thoughts.

Although the subjects were not explicitly told which language to use for thinking aloud, English was considered more suitable than German. As the subjects were not yet as proficient in German as in English, their cognitive processing would have been affected by linguistic difficulties. Therefore, all directions and reminders were given in English in order to encourage the subjects to think aloud in English. In fact, all subjects used English except for one subject in the main study who reported her thoughts in German.

3.1.3.4.2. Practice before the think-aloud task

All subjects went through the same "warm-up" procedure as recommended by Ericsson & Simon (ibid.). A short paragraph from an unrelated article from the news magazine 'Focus' (cf. 3.1.2.2.1.) was presented to each subject before the actual think-aloud task. The subjects then practised to say aloud everything they were

thinking while reading. The practice session, which did not include looking up words in the dictionary, was in all cases finished in less than five minutes. Ericcson & Simon's (1984/1993, cited in Pressley and Afflerbach 1995: 11) observation that thinking aloud is a natural enough process and people do not require much training in order to think aloud could be confirmed in this research. Although there were clear differences in the willingness of subjects to report their thoughts, no subject expressed difficulties with the task.

3.1.3.4.3. Triangulation

According to Pressley & Afflerbach (1995: 124), triangulation has been a successful method of validating think-aloud data. Triangulation is achieved by correlating the think-aloud data to objective performance data. While the results of think-aloud protocols on their own may be suspected of being influenced by the researcher's interpretation of the data, they become more credible if they are coherent with other results, for instance test results.

In both think-aloud studies in this thesis, the think-aloud data were triangulated with the same reading comprehension and vocabulary tests that were administered in the experiment (cf. 3.1.2.2.3. and 3.1.2.2.4.). It was expected that subjects who had consulted the dictionary successfully would perform better in the tests. The think-aloud protocols (TAPs) were collected in individual session which took between 45 and 96 minutes. All sessions were tape-recorded. After the reading of each text, the subjects were first asked to write the recall protocol. The vocabulary tests were administered at the end of the session (cf. 3.1.2.4).

3.1.3.5. Data analysis

According to Pressley & Afflerbach (1995:122/3), previous think-aloud studies also lacked comprehensive reporting of the categories, how they were developed and illustrated by examples (cf. 2.3.1.).

An inherent feature of the qualitative method of thinking aloud is that it offers only a low degree of structure (Krings 1987:167). Therefore, categories must be developed to structure the data. As this research was heuristic, there were no preconceived categories, and the analysis of the protocols was post-hoc. The data was coded by

two broad categories: successful and unsuccessful look-ups, according to dictionary condition. The transcripts of the verbal protocols were first analysed by two independent judges for those words which were looked up by the subjects and understood, and for those which were looked up and not understood. The interrater reliability was .94.

The second step was to analyse each word for the reasons why it was looked up successfully or unsuccessfully by

a) scrutinising the subject's utterances made in the process of identifying an unknown word and looking it up in the dictionary;

b) scrutinising the dictionary entries and relevant definitions.

From that analysis, different categories for look-up success and failure could be developed for the two different dictionary conditions. Because there were no guidelines or potential categories from previous research, this analysis was not conducted independently, but in cooperation by the two judges.

3.1.3.5.1. Transcription scheme

How detailed a transcription is depends on the focus of the research. While, for instance, a study into speech production by language learners needs to illustrate phonological details in a phonetic transcription, the method in this study could be simply a word-by-word transcription. Relevant for this research context was to represent non-verbal information such as length of pauses, repetition, false starts, and sighs in the transcription, because they can be important indicators of problems experienced with the task. The transcript notation in this thesis was based on the one developed by Jefferson for conversational analysis (cf. Atkinson & Heritage 1984: ix – xv). However, as several symbols that are needed for phenomena occurring in natural speech are not needed for think-aloud data[27], the system was slightly reduced. The intervals within and between utterances were reported differently: As the pauses during thinking aloud tend to be longer than in natural conversation, they were reported in full seconds instead of in tenths of seconds. The transcription scheme is described in Table 3.3.

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[27] For instance the symbol for overlapping utterances. These do not normally occur in think-aloud sessions, as the researcher is a listener rather than a participant in a conversation.
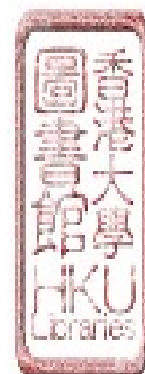
Table 3.3. Transcription scheme

Notation	Phenomenon described
{bold print}	Target word in focus
S initial: normal	Subject talk
R: normal	Researcher talk
Italics	Subject quotes from reading text or dictionary text
[ ]	Pause
(?)	Recording unclear, not at all understood
(...)	Items enclosed are in doubt, not clearly understood
(( ))	Nonverbal sounds and actions
Underline	Utterance emphasised by subject

3.2. Part 2: The comparison between different definition types

The second part consists of two studies:

1) a think-aloud study with 13 learners of German from Hong Kong;

2) an experiment with 86 learners of German from Shanghai.

The research focus was narrowed down to two types of monolingual definitions, and the main question was which type was better understood, and why.

Because the research results of Part 1 revealed that the definitions of the German learners' dictionary, the *Langenscheidt Großwörterbuch Deutsch als Fremdsprache* (LGDaF) posed a number of difficulties to the subjects, new definitions (NDefs) were designed with features which were expected to be more helpful for learners at the intermediate proficiency level. These features and the defining principles are discussed in Chapter 5.

The aim was to find out:

1) which definition type, the LGDaF definitions or the NDefs, is more effective for intermediate learners;

2) which features make monolingual dictionary definitions effective or ineffective for intermediate learners.
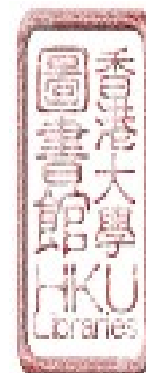
3.2.1. The main think-aloud study

Unlike the first investigations, in this part of the research, the think-aloud study was conducted before the experiment for the following reason. Part 1, the comparison between bilingual and monolingual dictionary, started off without any preconceptions of what dictionary type would be more effective for intermediate learners, as there was no empirical evidence from previous research. Therefore, the effectiveness was compared quantitatively first, before the reasons were examined. Once the small-scale think-aloud study identified some features in the relevant dictionary entries and definitions that were helpful or not, hypotheses could be developed as to what makes a definition helpful for intermediate learners. The design of to the NDefs was partly based on these hypotheses. The first aim in Part 2, the comparison between monolingual dictionary definitions, was to seek evidence for the effectiveness of the NDef features which were hypothesised to be helpful. This evidence could only be provided by directly observing learners working with the different definitions. The main think-aloud study led to more specific hypotheses which then could be tested experimentally with a larger sample.

3.2.1.1. Research questions

The following research questions were addressed in the main think-aloud study:

1. Do subjects using the NDefs understand the meaning of more unknown words than those using the LGDaF or the bilingual dictionary?

2.1. Which features make monolingual dictionary definitions effective for intermediate learners?
2.2. Which features make monolingual dictionary definitions ineffective for intermediate learners?

3. Do subjects who use the NDefs learn more words incidentally than those who use the LGDaF or the bilingual dictionary?

4. Do subjects who use the NDefs comprehend the texts better than those who use the LGDaF or the bilingual dictionary?

As mentioned above, the main aim of Part 2 was to find out which definitions could be understood better. In order to answer this question, testing reading comprehension and incidental word learning was not required, because these tests are not precise indicators of the understanding of definitions (cf. 6.1.). However, both tests were still

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administered in the main think-aloud study, in order to triangulate the results with those of the first experiment, which are reported in Chapter 4.2.1. and 4.2.2. The bilingual dictionary, although not the focus of this study anymore, was also included for triangulation.

3.2.1.2. Instruments

Again, the same reading texts and tests were used as in Part 1 (cf. 3.1.2.2.). Although the subjects of this study had a much larger number of word explanations available than those in the first experiment, the same twenty-four words were tested in the vocabulary test. This way the results of the two studies could be compared.

New definitions (NDefs) were developed for 61 words from the two reading texts, consisting of the 23 target words in the first experiment and an additional 38 words. These were all the words which were looked up by more than 15 percent of the subjects in the first experiment. They were included for Part 2, because the small number of the 23 original target words was considered to be an insufficient basis for research into effective definition features. The entries for these 61 words of both the NDefs and the LGDaF were presented to the subjects in an alphabetical list, because the NDefs are not available in a book format. To allow for direct comparison between the monolingual dictionary conditions, the LGDaF entries were also put together in a list, so that the LGDaF users were not disadvantaged. The word list contains no other entries than those for the 61 target words. It would have been an additional task for the LGDaF users to locate the right entry first in the book format, especially in the case of homonyms or related words. Also, the focus was not on the variety of problems encountered with dictionaries anymore, as it was in the small-scale think-aloud study, but on the understanding of the definitions.

However, this was not the case for the bilingual dictionary users. Since the bilingual dictionary was included in this study for triangulation, it was expected that some results from the small-scale think-aloud study could be confirmed. Therefore, the subjects in the bilingual group were given the same conditions as in the small-scale study; i.e. they used the dictionary in book format.
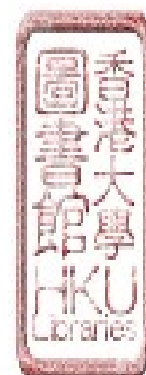
3.2.1.3. Subjects

The thirteen subjects who participated in the main think-aloud study came from one second-year class at Hong Kong Baptist University. At the time of the study, they had received around 560 hours of instruction in German. They also participated in the second stage of the survey in 1999 (cf. 3.1.1.3.).

For the analysis of the main think-aloud study, the four subjects of the small-scale study were included, increasing the total number of subjects to seventeen. This was possible because the research questions for the two think-aloud studies were different. While the small-scale study looked for any factors that facilitate or impede dictionary consultations, the main think-aloud study looked more specifically for features in monolingual definitions. Therefore, the think-aloud protocols of the two subjects who used the monolingual dictionary in the small-scale study could be re-analysed under more specific research questions.

In order not to disclose the subjects' names in the analysis, they were assigned abbreviations and numbers according to their dictionary type. As in the experiment, the subjects were of different verbal abilities. The rationale for defining high and low verbal ability was described in 3.1.2.3. In the two monolingual conditions, half of the students belonged to the high verbal ability group and the other half to the low verbal ability group. There were only five subjects in the bilingual dictionary condition, three of which were of low verbal ability:

Table 3.4.: Distribution of subjects according to dictionary type and verbal ability

		High verbal ability	Low verbal ability
NDefs	n = 6	ND1, ND2, ND3	ND4, ND5, ND6
LGDaF	n = 6	LG1, LG2, LG3	LG4, LG5, LG6
Biling.dict.	n = 5	BL1, BL2	BL3, BL4, BL5

The verbal ability scores of the subjects in this study were slightly above the average of the subjects in the experiment, as can be seen in Table 3.5.:
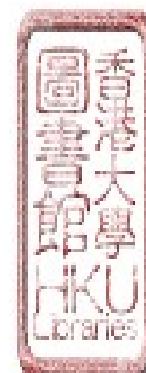
Table 3.5.: Mean scores of verbal ability

Group	Experiment: High verbal ability	Think-aloud: High verbal ability	Experiment: Low verbal ability	Think-aloud: Low verbal ability
Scores	81.95 (SD = 4.4)	84.25 (SD= 5.2)	62.04 (SD = 6.8)	66.78 (SD = 2.49)

3.2.1.4. Procedures

The procedures were the same as in the small-scale think-aloud study and were described in 3.1.3.4. Because the aim was to find out whether the subjects understood definitions or not, they were encouraged to write down the Chinese equivalent of a word, if they were not able to express the meaning in English. However, this was only done once.

3.2.1.5. Data analysis

The tape-recorded think-aloud protocols were transcribed in the same way as in the small-scale study (cf. 3.1.3.5.1.). Because the sample consisted of seventeen subjects, some quantitative analysis could be conducted.

3.2.1.5.1. Quantitative analysis

The written transcripts as well as the tests were first analysed by two judges for the following information:

1) Number of previously unknown words looked up and clearly understood in the relevant context;
2) number of words known in the vocabulary tests;
3) number of text units recalled in the reading comprehension test.

The number of words, which were successfully or not successfully looked up, were compared by dictionary type. Only the look-ups of the sixty-one target words were counted, despite the fact that some bilingual subjects looked up some other words. The reason was that in the monolingual conditions only the target words were provided. Two judges determined whether a word was understood or not. Usually this was obvious from the transcripts, because the subject had said aloud an English equivalent or a paraphrase. There were a few cases when subjects said they understood a word, but did not provide an equivalent or paraphrase. In these cases

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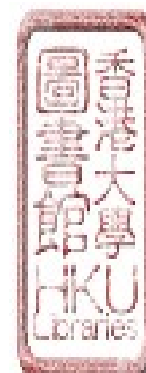
the vocabulary tests were consulted in order to determine whether the word was indeed successfully looked up. If subjects did not clearly indicate their understanding, and the vocabulary tests did not offer clear evidence, the word was given a question mark and assigned to a third category, the one for unclear cases. If subjects could not find an entry for a word or a meaning because of wrong look-up strategies, the word was counted as "not understood".

The number of words understood through dictionary consultation, and the results of vocabulary tests and the reading comprehension test were compared by dictionary type, and descriptive statistics were conducted. As the group size was only six subjects for the monolingual conditions, and five for the bilingual dictionary, it could not be proved statistically whether the differences between the groups were significant.

Unlike the experiment, which words were actually understood through dictionary consultation could be determined in the think-aloud study. By correlating these words with the test results, it could be established whether successful dictionary consultation did indeed result in higher incidental vocabulary learning and reading comprehension scores. Pearson Correlation Coefficients were obtained for the number of words the subjects understood from looking them up, and the vocabulary and reading comprehension test results. The correlation analysis was conducted across the dictionary conditions, so that the sample size was seventeen and statistically more relevant.

3.2.1.5.2. Qualitative analysis

Although some categories of successful and unsuccessful look-ups were established in the small-scale introspective study, these categories were not used as the basis for analysis of the monolingual dictionary conditions in this investigation. A post-hoc analysis seemed more appropriate, because the pre-established categories were not expected to apply to the new dictionary condition (NDefs). Furthermore, the categories of the small-scale introspective study were broader, as it was aimed at finding any reasons for successful and unsuccessful look-up actions. In the main

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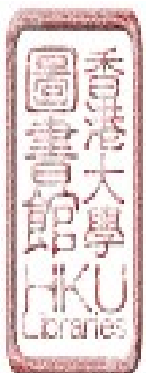
study the categories had to be fine-tuned, as it looked more specifically at certain characteristics of definitions.

However, the main category was the same as in the small-scale study, i.e. successful and unsuccessful look-ups. In an investigation which is concerned with the effectiveness of different dictionary explanations, this must be the underlying category. First all look-up actions recorded in the TAPs were analysed and the words were identified, which were looked up successfully or unsuccessfully. List 1, a list of successful and unsuccessful look-ups was then drawn up for all words which had been looked up by at least two subjects in one dictionary condition, and by at least one subject in another condition. In several cases, the list showed a real difference in look-up success between the dictionary conditions, as the following example for the target noun 'Indiz' shows:

Table 3.6.: Example from List 1: successful and unsuccessful look-ups by words

Indiz (Text 1):								
bilingual (4)			LGDaF (4)			NDef (4)		
+	?	-	+	?	-	+	?	-
1		3			4	3		1

The first row presented the target word, the second row showed the dictionary condition, and in brackets the number of subjects who looked up the word. In the third row, symbols were used to indicate a) that the word was understood (+); b) that it could not be determined from the protocols whether the word was understood (?); c) that the word was not understood (-). The fourth row presented the number of subjects. List 2, which presented successful and unsuccessful look-ups of the same words by subjects, helped the researcher to navigate the seventeen think-aloud protocols in order to find reasons for success or failure of the look-up actions.

From List 1, the subcategories were developed by analysing the subjects' utterances which were made in the process of looking up the unknown word in the dictionary. In many cases, the utterances indicated features in the definitions which prevented or facilitated the understanding of the words meaning. In these cases, the subjects' utterances were quoted in the report, and it was stated whether this evidence was found in other subjects' TAPs as well (cf. Chapter 6).
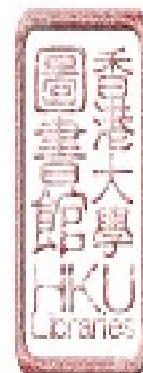
In cases when the TAPs did not reveal the reasons for success or failure of the look-up actions, the dictionary entries were closely re-examined in order to find reasons in comparison with the entries in the other conditions. The possible reasons were assessed by two judges.

The qualitative analysis led to a number of hypotheses concerning features in monolingual definitions that facilitate or impede the understanding of the word's meaning. These hypotheses were tested in the second experiment.

3.2.2. The second experiment
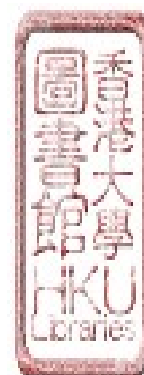
The aim of the second experiment was to test with a larger sample whether the NDefs are more effective than the LGDaF definitions. In addition, individual definition features were tested for their effectiveness.

As it is impossible to find a large enough sample of learners of German in Hong Kong (cf. 3.1.2.3.), the experiment was carried out in Shanghai where much higher numbers of university students learn German.

The methodology for this investigation was different. While the activity context for the consultation of the dictionaries was still reading, using reading comprehension as a measure of the effectiveness of dictionaries was abandoned. One reason was that the results of the previous study revealed that the reading comprehension scores were not correlated to the scores of successful and unsuccessful look-ups. Also, the aim was to find out directly whether words were understood from the definitions. Word understanding was not, as is explained in 3.2.2.2.2., operationalised by tests scores on reading comprehension and incidental vocabulary learning.

3.2.2.1. Research questions

1. Do subjects using the NDefs understand the meaning of significantly more target words than those who use the LGDaF?
1.1. Particularly within the low verbal ability group, do the subjects using the NDefs understand the meaning of significantly more target words than those using the LGDaF definitions?

2. Which features make monolingual dictionary definitions effective for intermediate learners? Which features make them ineffective?

The individual hypotheses concerning effective and ineffective definition features are listed and discussed in 6.4.3. and 7.1.

In order to answer the first research question, the NDef and LGDaF results for all target words selected for this study were compared. To test the hypotheses concerning definition features, the results for selected target words were compared. These words were identified in the main think-aloud study (Chapter 6) and are listed in 7.1. The selection of the target words for the experiment is discussed in the following section.

3.2.2.2. Instruments.

In the second experiment, only the reading texts were the same as in the previous investigations, while the other instruments were different according to the different research aim. As explained above, the focus was specifically on the understanding of definitions rather than on the effect of dictionaries on vocabulary learning and reading comprehension. Therefore the testing method was changed. Also, several target words were different, mainly as a result of the hypotheses put forward in the main think-aloud study.

3.2.2.2.1. Target words

From the word list with 61 entries (cf. 3.2.1.2.), 21 words were chosen as the target words for the experiment. The following selection criteria were applied:

1) The words were likely to be unknown to the subjects. This was easier to establish than in the first experiment, because the subjects came from a very homogenous learning background and had little or no exposure to German outside the classroom. It was determined from the glossaries in their text books which words were known or unknown to the subjects. As the experiment was conducted in Shanghai, no contact could be established with the German instructors beforehand. Therefore they could not be asked to confirm that the proposed target words were indeed not familiar to the subjects, a procedure that was carried out in the first experiment (cf. 3.1.2.2.2.). However, in a preliminary

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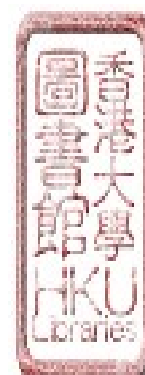
discussion, the head of the German College was confident that the students at the end of the elementary level would usually not know words outside their glossaries.

2) The words were involved in the different hypotheses derived from the main think-aloud study.

Thirteen target words were identical with those in the first experiment.

3.2.2.2.2. The test of word understanding

Testing directly whether a word meaning was understood through dictionary consultation is different from testing incidental vocabulary learning with unexpected vocabulary tests, which were administered in the first experiment. A method that was used before to assess the understanding of word meanings from monolingual dictionaries is to ask subjects to use the target word in a sentence (Maingay & Rundell 1987, Miller & Gildea 1987, Nesi & Meara 1994). This method was not considered appropriate, because the above studies were concerned with the effectiveness of dictionaries for language production, while in this thesis the context for dictionary use is reading. Furthermore, as Nesi & Meara (1994: 6) noticed, this method often results in subjects just repeating parts of the definitions or examples when they produce sentences. Generally, in sentences written in the target language by students of intermediate proficiency level it might be very difficult to assess whether the target word was understood.

Therefore a more specific type of the supply-definition test than that used by Knight (1994: 288) was chosen. Knight required the subjects to supply either an equivalent in their native language or a definition in the target language. As Knight's subjects used a bilingual dictionary, there was no danger of them copying part of the definition when supplying a definition in the target language. By contrast, the subjects of this study used monolingual dictionaries and could have copied segments from the definitions, if they were allowed to write an equivalent in German. It would be difficult to assess whether such segments reflected real understanding of the target words. Therefore, they were instructed to write down the meanings of the target words only in their native language, Chinese. This method was used by Chun & Plass (1996: 187), and Kostrzewa (1991: 61) who tested the understanding of English dictionary definitions by asking his subjects to supply the German (L1) equivalent.

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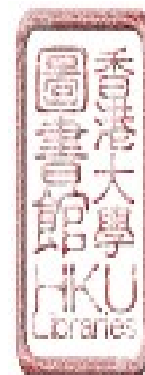
Unlike the first experiment, the subjects were given a work sheet with the target words for each reading texts. They were asked to write the meaning next to the target word and tick for each word whether they looked it up in the dictionary or not (cf. Appendix 3.11.). The instructions for this test and all other tasks were given in the subjects' L1, Chinese.

3.2.2.2.3. Reading comprehension

Reading comprehension was not under investigation in this study. However, reading was the context for dictionary consultation, and it had to be ensured that the subjects read the texts and did not just look up the words in the word lists and supply their equivalents without the text basis. Most target words were polysemous, and without the reading context there would have been no direction for the subjects for which sense they should look in the dictionary entry. Furthermore, it would have been impossible to assess the understanding of dictionary definitions, if the subjects could have supplied any meaning of the target words. Also, looking up words from a word list is an unnatural task, as unknown words are usually encountered by learners in a context.

Although the Chinese instructions on the work sheet containing the target words required that the subjects supplied the meaning the words carried in the reading context, it was considered necessary to present some reading task to ensure that the subjects indeed read the texts. However, the reading test used in the previous investigations of this thesis, the recall protocol, was regarded as too demanding in this research design in which reading comprehension was not to be a measure of the effectiveness of dictionary definitions. It would have required disproportionate resources[28] and time. For this reason, a True/False test in German was administered for each text (cf. Appendix 3.11.). This test type was used although is not regarded as a reliable method of assessing reading comprehension, because it is not necessarily text dependent (cf. 2.2., Bernhardt 1983a: 28). For the aim of ascertaining that the subjects read the texts it seemed sufficient. Doing this test type was less time-consuming for the subjects. The test was also easier to score, and it was expected to

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[28] The subjects in this study would have written their recall protocols in their L1, Chinese; the researcher does not read Chinese and would have relied entirely on other judges to assess the protocols.

provide some background data in cases of doubt, when the meaning of the target words were not supplied in a clear way.

3.2.2.3. Subjects

The subjects were 86 students studying German in an intensive course at 'Deutsch-Kolleg' [German College] at Tongji University in Shanghai. The College prepares students and graduates from different faculties for further studies in Germany. A large number of students who receive language training at the College are graduates on state scholarships. After they learned German for one year intensively and passed their German exams, they will be sent to Germany for postgraduates studies, often to study for their doctorates. However, in recent years an increasing number of the students at the College are so called 'Selbstzahler' [self-payers]. These are students of mostly technological, engineering or business subjects, who often have not yet graduated and plan to continue their studies in Germany. As they are not recipients of scholarships, their parents pay the quite substantial fees for their intensive German courses at the College, as well as for their subsequent studies in Germany.

The 86 participants in the experiment belonged entirely to the group of 'self-payers'. According to the head of the college and the language instructors, there is a clear difference between scholarship recipients and self-payers. While the scholarship recipients depend on their results in the German courses to be sent to Germany, the self-payers can go there before finishing the courses if they obtain admission from a German university. Often, once they obtained a place at a German university, they do not gain the necessary language qualification in China, but attend further language courses in Germany in order to pass the language examinations there. According to the instructors, several participants of this study had already obtained admission in German universities. Therefore, they would not finish the one-year preparatory course in Shanghai, and accordingly, their motivation to pass the examinations at Tongji University was not high. That fact perhaps affected the attendance level: On the day of the experiment, which was just two days before the final examinations for the elementary level, of the 100 students studying in five parallel classes, only 88 were present. Two of them left their work sheets for the experiment completely empty, so that data was available from only 86 subjects.

The subjects were about to finish the first semester in the two-semester preparatory course. In each semester the students study German 24 hours a week for 20 weeks. The participants in this study were in the last week of their first semester and had received 470 hours of instruction. Although they had studied German for only one semester they had reached the same intermediate proficiency level as the Hong Kong subjects of the previous studies who had learned German semi-intensively for 4 semesters. The two textbooks used by the students of the College in their 20 weeks of studying German were carefully analysed by the researcher, and it was confirmed that they had acquired the same grammatical knowledge and possibly a larger vocabulary than the Hong Kong subjects. The vocabulary size which learners should have acquired at the end of the elementary level is defined by the 'Rahmenplan für das Grundstudium im Fach Deutsch an Hochschulen und Universitäten in China' [Curriculum for the elementary level in German at Colleges and Universities in China] as 3711 words, 2648 of which must be known "productively" (p. 257). The word list provided in the Curriculum was found to cover most words of the Basic Word List (cf. 3.1.2.2.2.) and contains about 1500 more words.

The subjects had so far relied on German-Chinese bilingual glossaries, and had not yet been introduced to the monolingual learners' dictionary. However, this was not regarded as a variable that would differentiate the Shanghai subjects much from the subjects in the previous investigations. The Hong Kong subjects had only received one lesson of practice with the German monolingual dictionary (cf. 3.1.2.3.), and results of the survey (cf. 4.1.) show that many have not learned how to use a monolingual dictionary in their L2, English. As observed by different researchers (cf. 2.4.2.), sufficient training in dictionary use is rarely given to learners. Therefore the Shanghai subjects' first contact with the German monolingual dictionary does not reflect an unusual user situation.

The verbal ability level of the subjects could not be assessed in the same way as for the subjects from Hong Kong (cf. 3.1.2.3.). Only one test had been written at half-term, after 10 weeks of instruction. To rely on the test results alone would have meant to ignore the subjects' achievements in the second half of the semester. Each class was taught by two instructors, who were asked by the Head of the College to assess the students in their class and to assign them to either the high or low verbal ability

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group. The instructors then prepared a class list for the researcher indicating for each student to which group he or she belonged. Although this method was not as accurate as the one used for the Hong Kong students, because of the rather short period of instruction and the lack of test results there was no better way of grouping the subjects.

3.2.2.4. Procedures

Two months prior to the experiment, a pilot study was carried out with ten second-year students of German at Hong Kong Baptist University. This was partly done in order to check the accuracy of materials and procedures, and partly to provide triangulation. If the results of the pilot study and the experiment do not differ widely, this can be taken as evidence that the findings are not just attributable to specific variables of the Shanghai subjects.

In the second experiment, it was not possible to use the computer program (cf. 3.1.2.4.), because the necessary computer facilities were not available. All materials had to be presented on paper. The main advantage of the computer program was that every word looked up by the subjects was recorded. As a result, in this experiment the subjects' look-up actions could not be so closely controlled as in the first experiment.

There were some time constraints on the experiment in Shanghai. Firstly, the subjects were available for not longer than a maximum of two hours. Although none of the subjects in the previous studies needed two hours to fulfill all the tasks, there was still the possibility that the subjects in Shanghai worked at a different pace. The time restriction was one of the reasons to use a simpler reading comprehension test (cf. 3.2.2.2.3.). The second constraint was on the contact time with the German instructors who had to distribute the test papers and supervise the experiment. For organisational reasons, the five instructors who taught the classes that morning could only be met 10 minutes before the start of the experiment. Therefore the materials had to be prepared in a way that required few explanations and allowed easy supervision of the experiment.

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Each class of about twenty students had to be divided by the instructors into two groups, one using the LGDaF definitions and the other the NDefs. One concern was that the instructors might not be able to ensure that the test papers between the two groups did not get mixed up. Therefore, different colours were chosen for the two dictionary conditions. Individual folders were prepared for each subject, the folders and all work sheets in white for the LGDaF subjects, and in yellow for the NDef subjects.

Each folder contained an instruction sheet with the tasks explained to the subjects in Chinese. This way the instructors did not have to explain the procedures to the students. In addition to the instruction sheet, the instructions for each task were presented on each individual work sheet. The second page was the pretest. The checklist procedure was the same as in the first experiment (cf. 3.1.2.2.3.). The pretest was included to ensure that the target words were indeed not known by the subjects, and was regarded as especially important in this research design, as the knowledge of the target words was only assessed by examining the glossaries (cf. 3.2.2.2.1.). The folder further contained the word lists with either the LGDaF definitions or the NDefs for the 61 word entries (cf. 3.2.1.2.). There were two more work sheets in the folders: one contained the vocabulary tests with the target words for each text, a column to supply the Chinese equivalent and another column to tick whether the word was looked up in the word list or not. The second work sheet contained the reading comprehension tests with the True/False questions.

Because of the time constraints explained above it was not possible to match the classes before the experiment to ensure that high and low verbal ability students would be equally represented in the NDef and LGDaF groups. However, the instructors were asked to distribute the white and yellow folders so that each group contained roughly the same number of high and low verbal ability students. During the experiment the researcher circulated from class to class to clarify any remaining questions.

3.2.2.5. Data analysis
Three different statistical analyses were conducted on the data from the second experiment. First, an overall comparison was carried out between the LGDaF and the

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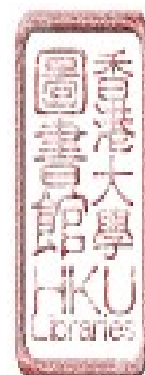
NDef groups. Unlike the first experiment, the sample size of 42 per group was sufficient to use a parametric test. For the comparison of the two independent samples the t-test was used. The second comparison was between the two dictionary conditions and the two ability levels. The one-way ANOVA with between-group design was chosen, with dictionary condition as the independent variable with two levels, i.e. high versus low verbal ability. The scores of the supply-equivalent test were the dependent variable. The test was first scored by a Chinese teacher of German. Knight's method of distinguishing between correct answer (one point), partial knowledge of the word (half a point) and incorrect answer (zero points) was adopted. A full point was allotted when the equivalent fully represented the meaning of the word in the reading text. A half point was given in the following cases:

a) the equivalent was supplied in the wrong part of speech;

b) two equivalents were supplied, one right and one presenting another, unsuitable meaning of the word;

c) the meaning was partially right.

The last option, 'partially right', is especially open to interpretation. Therefore, in all cases of partially right answers, a second judge was asked to assess the answer, and the half point was only given when she regarded the answer as partially right as well. The second judge also assessed a random selection of thirty tests. The interrater reliability was .91.

A third statistical analysis was carried out on the results for individual words, in order to test the hypotheses concerning definition features, which were put forward in the main think-aloud study. This analysis was concerned with the frequency of subjects in the two dictionary conditions looking up the individual words successfully, partially successfully, and unsuccessfully. As mentioned above, there were three categories of frequencies: (1) correct answer, (2) partially correct, and (3) incorrect. The frequencies of LGDaF and NDef users were arranged in 2 by 2 (if there were no partially correct answers) or 2 by 3 Contingency Tables and analysed by Chi-square. The Chi-square values showed whether individual words were looked up significantly more successfully in one of the two dictionary conditions.

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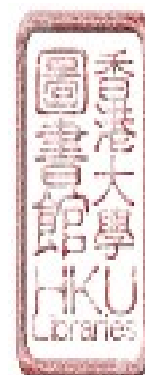
3.3. Summary

In this Chapter, the methodology for the different studies of this thesis has been discussed. In the following Chapter, the results of the first investigation are presented. These include the results of the survey of Hong Kong university students of two foreign languages, and the results of the comparison between bilingual and monolingual dictionary use by intermediate learners of German in Hong Kong.
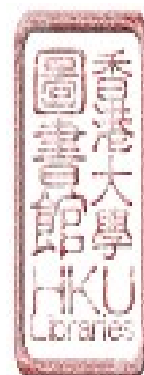
Chapter 4: The comparison between the bilingual and the monolingual dictionary

4.0. Introduction

In this Chapter, the results of the first investigation are reported. The first investigation was concerned with the question of whether the bilingual or the monolingual dictionary is more helpful for Hong Kong Chinese intermediate learners of German for reading and incidental vocabulary learning. As already explained in 3.1., the investigation consists of three parts. First, a survey was conducted to find out which dictionaries Hong Kong students of foreign languages prefer to use, and why. The second part, an experiment, was carried out to test whether the subjects' preferred type of dictionary is indeed the most effective one for them. The third part was a small-scale think-aloud study, in which factors were sought which facilitate or impede the successful consultation of either the bilingual or the monolingual dictionary.

The following section presents the results of the survey on dictionary use.

4.1. The survey results

As explained in 3.1.1.3., 50 students of German and 47 students of French, all at the intermediate proficiency level, filled in the questionnaire. The subjects were in the usual age group for undergraduates, i.e. from 20 – 22, apart from two subjects who were 23, and one aged 24. Ninety of the subjects were female and only 7 male, a gender distribution which is not uncommon in programmes with a major language component. All subjects had the same educational background (cf. 3.1.1.3.). Students of French were included in order to find out whether certain dictionary preferences are the same for the two languages, and can perhaps be explained with the subjects' linguistic and educational background, or whether they are unique to students of German.

Apart from the subjects' background, there were three areas to be investigated in the survey, namely, the subjects' dictionary preference for the foreign language and English, their assessment of different dictionary types, their dictionary training and the purpose for which they mainly use the dictionary (cf. 3.1.1.1.).

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4.1.1. Dictionary preference

This section deals with the type of dictionary the subjects prefer in the foreign language, and in their second language, English. As mentioned in 1.2., it has been frequently observed that Hong Kong Chinese learners of German use German-English rather than German-Chinese dictionaries. The aim of the present survey was to find out whether this dictionary preference is indeed common, and whether it applies also to learners of another European language.

Research question 1: Which type of dictionary do Hong Kong Chinese foreign language learners at the intermediate proficiency level prefer, the FL-English, FL-Chinese, or the monolingual dictionary?

Question in questionnaire: Which dictionary do you mainly use for German/French?

The numbers of answers and the percentages are presented in Tables 4.1.a. and 4.1.b. Some students ticked more than one option, indicating that they use more than one dictionary.

Table 4.1.a: Preferred dictionary for German

German (n = 50)		
ML/G	G-C BL	G-E BL
1 (2%)	2 (4%)	50 (100%)

ML/G = monolingual German
G-C BL = bilingual German-Chinese/Chinese-German
G-E BL = bilingual German-English/English-German

Table 4.1.b: Preferred dictionary for French

French (n = 47)		
ML/F	F-C BL	F-E BL
9 (19%)	8 (17%)	42 (89.4%)

ML/F = monolingal French
F-C BL = bilingual French-Chinese / Chinese-French
F-E BL = bilingual French-English/ English-French

All students of German and 89.4 percent of the students of French mainly use the FL-English bilingual dictionary rather than using the medium of their mother tongue. This finding is discussed further in 4.1.4. Few subjects, mostly students of French, use the monolingual dictionary. However, two of the nine students of French stated that they used it together with the French-English bilingual dictionary, and another two commented that they had to use it in class. As the number of French students using

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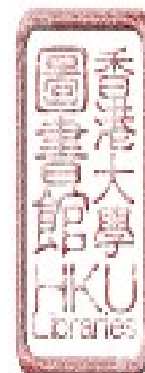
the monolingual dictionary is higher than that of German students, it can be assumed that in at least one French class the use of this dictionary type was required. Of the eight French students using the French-Chinese bilingual dictionary, five wrote that they use this type in combination with the English-French one. Similarly, the three students of German using the monolingual and the German-Chinese bilingual dictionary respectively use it in combination with the German-English bilingual.

As the results presented in Tables 4.2. show, the preference for bilingual dictionaries applies also to English, although not so strongly.

Research question 1.1.: Which type of dictionary do the learners use for their L2, English?
Question in questionnaire: Which dictionary do you mainly use for English?

Table 4.2.: Preferred dictionary for L2

German (n = 50)		French (n = 44)	
ML/E	E-C BL	ML/E	E-C BL
13 (26%)	41 (82%)	13 (29.5%)	31 (70.5%)

ML/E = monolingual English
E-C BL = bilingual English-Chinese/ Chinese-English

Certainly due to their higher proficiency level, more subjects use the monolingual dictionary for English than for the foreign language. However, the majority, 82 percent of the respondents for German and 70.5 percent of the respondents for French use English-Chinese bilingual dictionaries. Only two students of German stated that they use the monolingual English dictionary exclusively, while the others use it in combination with the bilingual dictionary.

As it was expected that many subjects, despite their teachers' recommendations, still shied away from the foreign language monolingual dictionary, the following question was added:

Research question 1.2.: Have the learners already tried to work with the foreign language monolingual dictionary?
Question in questionnaire: Have you ever tried to work with a monolingual German/French dictionary?
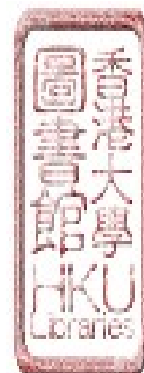
Table 4.3.: Number and percentage of subjects who tried use of FL monolingual dictionary

German (n = 46)		French (n = 44)	
Yes	No	Yes	No
13 (28.3%)	33 (71.7%)	27 (61.4%)	17 (38.6%)

As Table 4.3. illustrates, there is a marked difference, as the majority of students of German have not used the monolingual dictionary yet in their language studies, while the majority of students of French have. Although all subjects studying German were encouraged by their instructors to start using the monolingual dictionary and received an introductory lesson (cf. 3.1.2.3.), these efforts are obviously not sufficient. By contrast, as the statements of two subjects studying French indicated, at least one French instructor required the use of the monolingual dictionary in the classroom.

4.1.2. Students' assessment of dictionaries for the foreign language

The subjects were asked in open-ended questions

a) why they prefer the dictionary type they stated in the previous question, and why they do not use the other types, and

b) which aspects in their foreign language dictionary they find useful, and which aspects should be improved.

4.1.2.1. Reasons for dictionary preferences

Research question 2: Why do the learners prefer that type of dictionary?

Research question 2.1.: Why do the learners not use the other types of dictionaries?

Question in questionnaire: Please give reasons why you use/do not use these dictionaries:
a) monolingual dictionary;
b) bilingual German/French-Chinese bilingual dictionary;
c) bilingual German/French-English bilingual dictionary.

4.1.2.1.1. Reasons for using the monolingual dictionary

As only few subjects use the monolingual dictionary, there were only the following individual answers:

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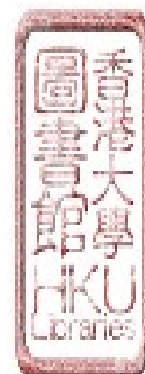
Table 4.4: Reasons for using the monolingual dictionary

Reasons:	German (n = 1)	French (n = 9)
1. To learn more French words		2
2. It helps to improve French		1
3. To learn structure and usage		2
4. Monolingual has many examples		1
5. It gives clear and full explanations, the bilingual can sometimes not exactly explain meaning	1	2
6. To be able to explain words in German	1	
7. It is compulsory in lessons		2

The figures correspond to those in Tables 4.1.a. and 4.1.b. Only one student of German replied, giving two reasons for using the monolingual dictionary, while nine students of French provided the answers. Another student of German reported that sometimes she would check the German-English dictionary first and then seek further information in the monolingual. Again, the fact that more students of French point out the advantages of the monolingual dictionary indicates that they have been instructed more carefully for its use.

4.1.2.1.2. Reasons for not using the monolingual dictionary

The subjects' answers fall into two categories:

Table 4.5: Reasons for not using the monolingual dictionary

Reasons:	German (n = 46)	French (n = 45)
1. It is too difficult; my proficiency level is too low; I cannot understand the words in the definitions	44 (95.7)	36 (80%)
2. It is too time-consuming to use	3 (6.5%)	4 (8.9%)

As the figures show, the large majority of the respondents consider the monolingual dictionary as too difficult to understand. A much smaller number also find it time-consuming to use. The fact that the use of the monolingual dictionary requires more time is rather a side-effect of the difficulties experienced with that dictionary type than an independent category. Most of the respondents for German and some of the respondents for French, however, had previously stated that they never tried to use the monolingual dictionary (cf. Table 4.3.), which means that their argument was based on preconceptions about monolingual dictionaries in general rather than on direct experience with that dictionary in the foreign language.

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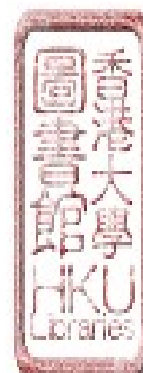
4.1.2.1.3. Reasons for not using or using the FL-Chinese bilingual dictionary

12 students of German and 14 students of French gave reasons for the use of the FL-Chinese dictionary. There is again a disparity between these numbers and the numbers of students who stated that they use this type of dictionary , i.e. 2 students of German and 8 of French (cf. Tables 4.1.a. and 4.1.b.). Obviously some respondents misunderstood the question in the sense that it requested them to think of possible advantages of the FL-Chinese dictionary. The answers were without exceptions vague, varying from "easy to buy", "easy to understand", "convenient" and "quick".

The questions why subjects do not use this type of dictionary yielded, in addition to the above type of answers, more precise information.

Table 4.6: Reasons for not using the FL-Chinese bilingual dictionary

Reasons:	German (n = 35)	French (n = 17)
1. Chinese is too different from FL, and cannot convey the meanings of some words. Therefore translations are often incorrect	19 (54.3%)	7 (41.2%)
2. Difficult to buy in Hong Kong/ lack of choice	8 (22.9%)	6 (35.3%)
3. Written in simplified characters	6 (17.1%)	2 (11.8%)
4. Information difficult to find, as Chinese word list does not follow alphabeth	2 (5.7%)	2 (11.8%)

With the first reason, the subjects suggest that the cultural background of Chinese and the FL, unlike English and the FL, is so different that word concepts cannot always be equated, and translations are often inaccurate. This sentiment is obviously influenced by the subjects' experience with the L2-Chinese bilingual dictionary, as the following statement shows:

> **Statement of student of German/Question 12b:**
> "I find some translations in the English-Chinese dictionary very strange. As it could also happen in Chinese-German dictionary, I chose to use a German-English one."

There seems to be an underlying suspicion that the FL-Chinese dictionary is of inferior quality, and one subject expressed that the German-Chinese dictionary "has no good reputation". This suspicion may be related to the fact that there are no FL-Chinese dictionaries produced in Hong Kong, but that they come from mainland China. This explains reasons 2 and 3. Several students complained about the lack of

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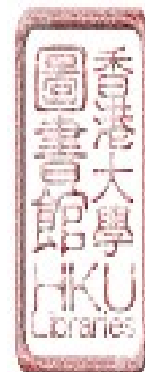
choice, and cannot or do not like to read the simplified characters of Chinese which are used in the mainland, but not in Hong Kong. The fourth reason concerns language production rather than comprehension. To find a word in the foreign language from a Chinese dictionary is complicated, because the Chinese script is not arranged in alphabetical order.

Some positive arguments why the subjects prefer the FL-English bilingual dictionary correspond to the above reasons why they do not use the Chinese counterpart, as the next section shows.

4.1.2.1.4. Reasons for using the FL-English bilingual dictionary

Only two subjects gave a reason for not using the English-FL dictionary, namely, that sometimes they would not completely understand the English translation. One of these subjects, however, added the statement:

> **Statement of student of French/Question 12c:**
> "Only about 5 % of words I need to look up again in English-Chinese dictionary."

As Table 4.7. illustrates, the majority of subjects regard this dictionary type as easy and convenient.

Table 4.7: Reasons for using the FL-English bilingual dictionary

Reasons:	German (n = 47)	French (n = 42)
1. More comfortable and convenient to use; easier to find and understand words	22 (46.8%	30 (71.4%)
2. English and FL are related, therefore translations are more accurate	13 (27.7%)	9 (21.4%)
3. Variety of choices; easier to buy in Hong Kong	5 (10.6%)	6 (14.3%)
4. Helps to improve my English	3 (6.4%)	2 (4.8%)

Reasons 2 and 3 correspond with reasons 1 and 2 in the previous section. The percentage of subjects giving these reasons is smaller, because many did not rephrase the arguments against the FL-Chinese dictionary as positive ones for the English-FL dictionary. The third reason, the variety of choices, is not surprising, as for English in combination with most languages there is a larger choice of bilingual dictionaries than for other languages.

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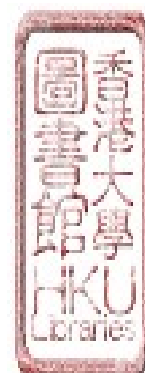
4.1.2.2. Students' assessment of different aspects in their dictionaries

Assessing different aspects of dictionaries requires a certain metalexicographic knowledge which language learners usually do not possess (cf. 2.6.1.). As the dictionary is a tool used without much reflection on its qualities, sophisticated analyses cannot be expected. However, it was intended to find out what learners expect from their dictionaries, and to elicit some additional information to the reasons why the subjects prefer certain dictionaries.

> **Research question 2.2.:** Which aspects do the learners find useful in their dictionaries and what aspects should in their view be improved?
> **Question in questionnaire:** Which aspects do you find good in the dictionary you are using?
> Which aspects should be improved?

The answers of most students proved that this type of question hardly leads to meaningful results, and should perhaps be avoided in questionnaires on dictionary use, as suggested by Zöfgen (1994: 43). The subjects exhibited a low level of metalexicographic awareness. Most answers consist of one word, such as "meaning", or "grammar", while others just repeat the reason previously given for preferring the dictionary, for instance "easy to use".

The provision of examples by their dictionaries seemed to be the only aspect which is important to a larger number of subjects. 21 students of German (n = 45) and 12 students of French (n = 43) commented that their dictionary provided good or enough examples, while 23 students of German (n= 44) and 17 students of French (n = 36) wanted this aspect improved by asking for more examples. This request points to one of the shortfalls of many bilingual dictionaries: especially the small-size ones offer hardly any other information categories than translation equivalents (Snell-Hornby 1987: 159 - 160).

Several individual answers concerned the physical appearance of the dictionaries, such as the weight, cover or paper quality. While these comments may be interesting for dictionary publishers, they are not useful for this research context. Thus, not much further information as to why the subjects preferred their dictionaries could be obtained.

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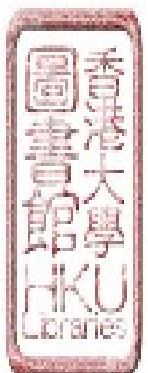
4.1.3. Dictionary training and main purposes of dictionary use

The awareness concerning the quality of dictionaries is certainly connected to the dictionary instruction the learners have or have not received. As was discussed in 2.4.2., dictionary education has been and presumably still is a rather neglected area in language teaching. Next to deficiencies in the dictionaries themselves, the lack of dictionary training is increasingly regarded as a major factor for the failure to use dictionaries effectively (Cowie 1999: 188). Therefore, the subjects' level of dictionary training is important background information, as it may explain further findings of this research. It is also interesting to find out whether students in Hong Kong, given the particular language situation involving Chinese and English (cf.1.3.), receive appropriate dictionary education at school.

> **Research question 3.:** Were the learners taught how to use a dictionary?
> **Research question 3.1.:** Where were they taught and which type of dictionary were they taught to use?

The questions in the questionnaire were phrased in the same way, addressing the subjects directly. As this question is concerned with a common aspect of the educational background of students in Hong Kong and not with the comparison between students of German and French, the answers of both groups are reported together.

Of the 93 subjects who answered these questions, 52 (55.9%) were taught how to use a dictionary, while 41 (44%) were not.

Table 4.8. Place of training/ type of dictionary (n = 93)

Place of training Type of dictionary	Primary school	Secondary school	University
Bilingual dictionary	33 (35.5%)	15 (16.1%)	6 (6.5%)
Monolingal dictionary	11 (11.8%)	29 (31.2%)	7 (7.5%)

The figures suggest that dictionary training is not an obligatory part of the school curriculum, but carried out in some schools. The majority of instruction on the (Chinese-English) bilingual dictionary is obviously done in primary schools, when children have started to learn English, while the majority of instruction on the monolingual dictionary takes place in secondary schools, when students have reached a more advanced level of English. The low amount of instruction given at

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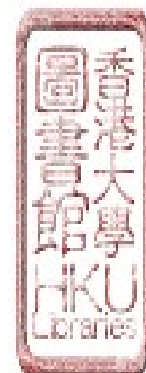
university may be the result of university teachers' assumption that their students have already been taught how to use a dictionary at school .

More background information was sought by investigating for what purpose the subjects mainly use their dictionaries.

> **Research question 4:** Which information categories do the learners mainly look for in their dictionaries?
> **Question in questionnaire:** Which type of information do you look for most often in this[29] dictionary?

This question was included in order to compare findings with the results of previous questionnaire studies, as recommended by Zöfgen (1994: 44). All studies found that meaning is the most important information category for learners. Therefore it was expected to confirm the relevance of this research, which deals with the understanding of word meanings through different dictionary types. Another reason for including the question was to complement Research question 2.2. and find more evidence of what learners expect from their dictionaries. The results of the German and the French groups showed no large differences and are reported together in Table 4.9.

Table 4.9. Frequency of information categories looked for in the dictionary (n =97)

	Very often	Often	Sometimes	Rarely	Never
Meaning	90 (92.8%)	6 (6.2%)	-	-	-
Grammar	22 (22.7%)	40 (41.2%)	26 (26.8%)	6 (6.2%)	-
Spelling	31 (32%)	33 (34%)	26 (26.8%)	5 (5.2%)	-
Pronunciation	2 (2%)	5 (5.2%)	34 (35%)	42 (43.3%)	10 (10.3%)
Examples	29 (29.9%)	28 (28.9%)	26 (26.8%)	4 (4.1%)	2 (2%)

As the figures show, 'examples' belong to the categories which are frequently sought by the subjects. This confirms the previous finding in 4.1.2.2., namely that many students assessed the quality of their dictionaries by the provision of examples.

In general, the above figures are much in line with the results of earlier surveys. Hartmann's survey of 185 students and teachers of German in England showed that 82 per cent consulted their dictionaries for word meanings daily or often, followed by 61 per cent seeking grammatical information, while information on pronunciation was occasionally or rarely sought (1982: 82). Béjoint's advanced learners of English

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[29] "this" refers back to the previous question, asking for the preferred type of dictionary.
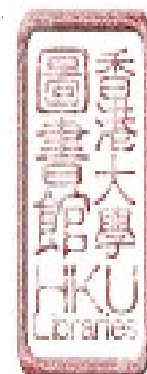
showed with 87 percent also "an overriding preoccupation with meaning" (1981: 215). Summers (1988: 114) reported that checking the meaning of words accounted for 60 per cent of the look-ups by intermediate students of English in six different countries.

For this study, the fact that 99 per cent of the subjects consult their dictionaries for meaning very often or often shows that researching into the understanding of meanings from dictionaries is most relevant. It is important to identify the dictionary type which provides the best chance of understanding word meanings for learners at the intermediate proficiency level, and to find out what aspects of word explanations can be improved to enhance understanding.

4.1.4. Discussion

The results of the survey confirmed the previous observation that the majority of the students prefer FL-English bilingual dictionaries over both the FL-Chinese bilingual and the monolingual dictionary. This preference is not unique to the students of German, but, to a slightly smaller extent, shared by the students of French.

For someone not familiar with the languages involved or the subjects' linguistic background it must be surprising that the subjects exclude their native language and choose the seemingly more complicated way through their second language. However, that is contrary to the students' perception, as they regard the FL-English dictionary as more comfortable and convenient to use (cf. Table 4.7.). The major argument by students of both foreign languages in favour of that dictionary type is the close relationship between English and the respective foreign language. Word concepts in English and the FL are regarded as similar or the same, while in Chinese, because of a larger cultural difference, translations are often, as subjects put it, "distorted", "incorrect", "inaccurate", or simply impossible. As the figures indicate, most subjects do in fact not use the FL-Chinese dictionary, but seem to have previously experienced this cultural gap with the Chinese-English dictionary. The implication could be that the students assume frequent or total equivalence in concepts between the "related" languages English-German/French and therefore perceive translation equivalents in the bilingual dictionaries uncritically as always correct. Another implication of their dictionary preference could be that the subjects,

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because of their semi-bilingual background (cf. 1.3.), assume that the FL-English dictionary is easier for them while in reality it may not be so effective. Its effectiveness could for instance be affected through the students' inability to understand the full meaning of the English equivalents. Another possibility is that the students first find an English equivalent for an unknown FL word, and then think up an equivalent in their mother tongue. This way, the word concept which the learners eventually derive after two translation acts could be distorted. It is one of the aims of this research to establish whether this dictionary type which is considered the easiest and most convenient, is indeed the most effective one for the learners.

The results also show that despite educators' beliefs (cf. 2.4.1.) and teachers' recommendations (cf. 1.2. for the German students), the monolingual dictionary has hardly any place yet in the language acquisition of the intermediate students. The main reasons given for the preference of the bilingual over the monolingual dictionary are consistent with responses in earlier questionnaire studies. Baxter (1980: 333) and Béjoint (1981: 217) report that their respondents regarded the bilingual as "easier to use" (Baxter ibid.) and the definitions in monolingual dictionaries difficult to understand. As Table 4.5. clearly illustrates, almost all subjects feel that the monolingual dictionary is still too difficult for them. As the number of students putting forward this reason is much higher than the number of those who actually have tried to work with it (cf. Table 4.3.), this feeling must be partly based on prejudices and former experience with the monolingual dictionary in the L2.

Although the students' proficiency in their second language is certainly higher than in the foreign language, over 70 per cent prefer the Chinese-English bilingual over the English monolingual dictionary (cf. Table 4.2.). However, if the subjects' argument against the FL-Chinese dictionary was applied to their L2 dictionary use, it would mean that because of the cultural difference between the language pair Chinese and English, the English monolingual would be more helpful for understanding the concept of English words.

Apart from the perceived difficulty, there are two possible explanations for the common rejection of the monolingual dictionary in both the foreign and the second language. The first is that most students follow a long learning habit and tradition in

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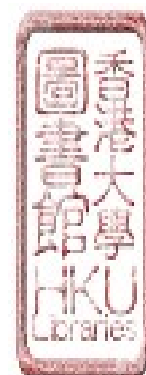
using the bilingual dictionary, because the emphasis in their semi-bilingual education was on this type of dictionary. The second explanation is the widespread lack of dictionary training, which results in a lack of knowledge about the advantages of the monolingual dictionary, and a lack of knowledge how to handle it. The bilingual dictionary can be used to a certain extent without dictionary training, although, as will be shown later in this Chapter, not as effectively as the users may think. In order to cope with the monolingual dictionary, however, learners need at least some initial training, for instance information about the variety of the information categories or about the defining style. If such training is not available, the monolingual dictionary may be perceived as more difficult than it actually is.

However, as the figures have shown, only 55.9 percent of the subjects of this study have been taught how to use a dictionary, and only 50.5 percent how to use a monolingual dictionary (cf. 4.1.3.). Nevertheless, they are a little better off than their counterparts in other countries. Atkins & Knowles (1990, cited in Cowie 1999:191) found in a survey of 1140 students in four countries that 60.4 percent had never received any instruction in dictionary use, and only 12.9 percent had received systematic instruction. Although the figures for the subjects of this study were higher, they are still surprisingly low in a city with two official languages, where the use of a dictionary is certainly required more than in monolingual places. Also, the survey gave no information about how systematically and intensively the subjects were trained, for instance whether they learned what to observe in general when choosing and using dictionaries, how to make use of the different information categories in the dictionary, how to find certain word forms, or how to distinguish a good from a bad dictionary.

For this thesis, the fact that a large number of subjects may have inappropriate dictionary skills because of a lack of dictionary training is important background information, because it could be

a) the cause for possible misconceptions about the effectiveness of the FL-English bilingual dictionary and for possible prejudices against the monolingual dictionary;

b) one factor for the possible failure to consult the respective dictionaries successfully.

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In order to find out how far the students' dictionary preferences coincide with the suitability of the preferred dictionaries, and which type is in reality more effective for them, the German-English dictionary was compared with the German monolingual learners' dictionary in an experiment. The results are reported in the following sections.

4.2. The results of the experiment

In the experiment, the effectiveness of the two dictionary types for reading comprehension and incidental word learning was measured. Because of the strong learner preference for the bilingual dictionary and the subjects' proficiency in German which was only at the intermediate level, the underlying hypothesis was that the German-English bilingual dictionary is more effective.

> **Research question 1:** Which dictionary type, the German-English bilingual or the monolingual, is more effective for reading comprehension and vocabulary learning for Hong Kong Chinese intermediate learners of German?

Another hypothesis was that weaker students would be less able to cope with the monolingual dictionary than students with a high verbal ability.

> **Research question 2:** Do particularly learners with low verbal ability comprehend texts better and learn more words incidentally when using the German-English bilingual dictionary than when using the monolingual dictionary?

The methodology for the experiment was discussed in 3.1.2.5. The sample size was very small, with 12 subjects each in the two bilingual dictionary groups (high verbal ability and low verbal ability) and 11 subjects each in the two monolingual dictionary groups (cf. 3.1.2.3., Table 3.1.). Consequently, the data were not normally distributed, as summary statistics on the test scores clearly showed. In the scores of both vocabulary as well as the reading comprehension test, there were some extreme values which affected the normal distribution. Therefore the assumptions of the parametric one-way ANOVA were not met, and a non-parametric test had to be used. The Kruskal-Wallis test, which is the nonparametric equivalent of the one-way ANOVA, was used to analyse the differences between the groups. The Ryan procedure was then applied to locate between which groups the significant difference lies.

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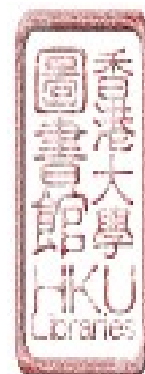
4.2.1. Incidental vocabulary learning

The following research question was addressed:

Research question 1.1.:
Do Hong Kong Chinese intermediate learners of German who use the
German-English bilingual dictionary learn more words incidentally while
reading than those who use the monolingual dictionary?

Incidental vocabulary learning was operationalised with two tests (cf. 3.1.2.2.3.):

a) a supply-definition (SDef) test in which the subjects had to supply a translation in
English or a definition for the target word;

b) a select-definition (multiple choice = MC) test in which the subjects had to tick the
right answer from four choices.

The assessment of the tests was described in 3.1.2.5.1. Means and standard
deviations for both vocabulary tests are presented in Tables 4.10. and 4.11.

**Table 4.10: SDef test: means and standard deviations of supply-definition vocabulary
scores by dictionary condition and ability level**

	Bilingual dictionary		Monolingual dictionary		Overall	
	Mean	SD	Mean	SD	Mean	SD
High verbal ability	5.33	(3.08)	2.73	(2.93)	4.09	(3.23)
	(n = 12)		(n = 11)		(n = 23)	
Low verbal ability	2.75	(2.96)	2	(1.48)	2.22	(2.35)
	(n = 12)		(n = 11)		(n = 23)	
Overall	3.63	(2.95)	2.36	(2.3)	3.02	(2.7)
	(n = 24)		(n = 22)		(n = 46)	

23 points possible

**Table 4.11.: MC test: means and standard deviations of select-definition vocabulary
scores by dictionary condition and ability level**

	Bilingual dictionary		Monolingual dictionary		Overall	
	Mean	SD	Mean	SD	Mean	SD
High verbal ability	8.17	(3.54)	6.16	(2.75)	7.22	(3.27)
	(n = 12)		(n = 11)		(n = 23)	
Low verbal ability	6.33	(3.36)	4.36	(2.11)	5.39	(2.95)
	(n = 12)		(n = 11)		(n = 23)	
Overall	7.25	(3.5)	5.27	(2.57)	6.3	(3.22)
	(n = 24)		(n = 22)		(n = 46)	

23 points possible

143
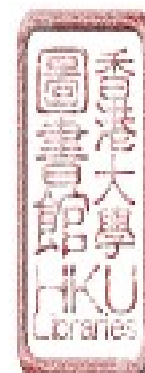
The mean scores of the MC and SDef test are also illustrated in Figure 4.1.:

Figure 4.1.: SDef and MC test scores
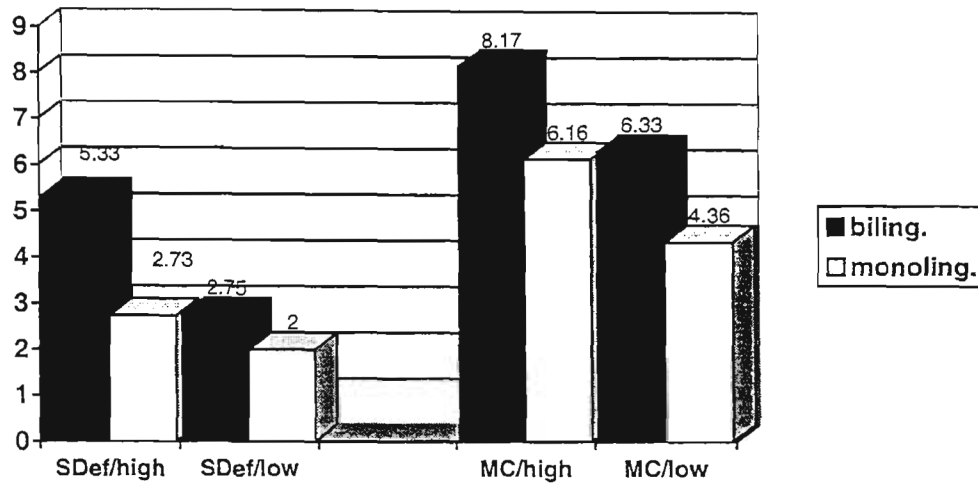
The Kruskal-Wallis test showed a significant difference only for the SDef test. The Ryan post-hoc procedure located the significant difference between the high verbal ability group using the bilingual dictionary and the other three groups with p= .03. However, there is no significant difference between the means of the MC test with p = .078.

The research question cannot unambiguously be answered. As only in one test and only in the high verbal ability group, i.e. in one out of four measures, the users of the bilingual dictionary scored significantly higher, there is not enough evidence to support the hypothesis that that the bilingual dictionary is more effective for incidental vocabulary learning by intermediate learners.
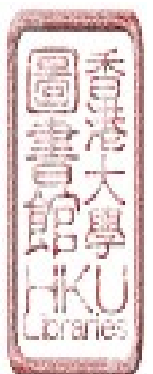
4.2.2. Reading comprehension

Research question 1.2.:
Do Hong Kong Chinese intermediate learners of German who use the German-English bilingual dictionary comprehend texts better than those who use the monolingual dictionary?

Reading comprehension was tested by means of the immediate recall protocol (cf. 2.2.1., 3.1.2.2.4.) . The analysis and scoring of the recall protocols was described in 3.1.2.5.2.. The maximum number of points was different for each of the two reading texts (Text 1: 52 points, Text 2: 35 points). For the analysis, the combined points from both texts were calculated.

Table 4.12. presents the results of the immediate recall protocol.

Table 4.12.: Means and standard deviations of reading comprehension scores by dictionary condition and ability level

	Bilingual dictionary Mean SD	Monolingual dictionary Mean SD	Overall
High verbal ability	29.83 (3.9) (n = 12)	28.09 (9.4) (n = 11)	28.68 (7) (n = 23)
Low verbal ability	21.66 (7.3) (n = 12)	16.63 (4.1) (n = 11)	19.36 (6.5) (n = 23)
Overall	25.4 (6.9) (n = 24)	22.36 (9.2) (n = 22)	23.9 (8.7) (n = 46)

87 points possible

The mean scores are also shown in Figure 4.2.:
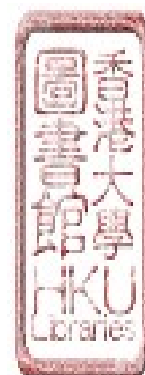
Figure 4.2.: Reading comprehension scores
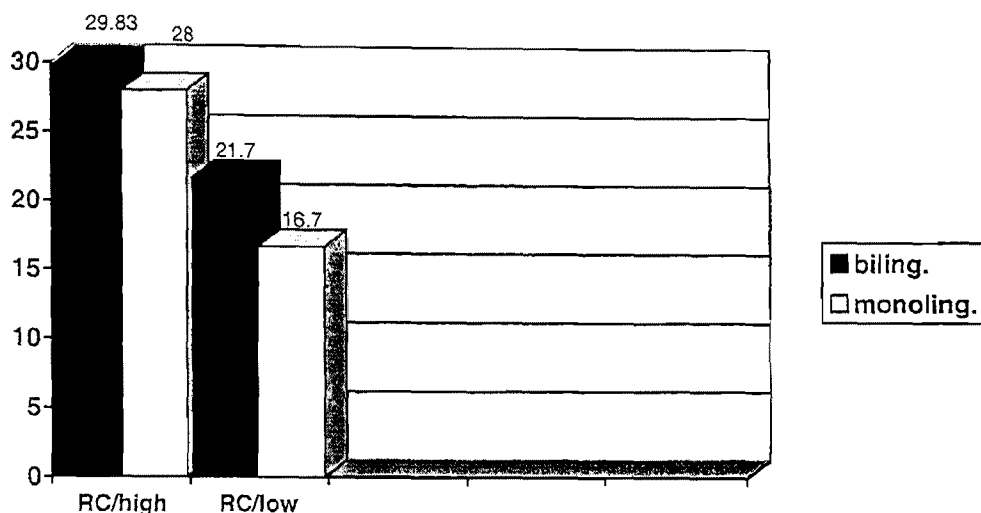
The Kruskal-Wallis test revealed no significant difference between the reading comprehension scores, although the significance level between the low verbal ability groups was just missed with a probability value of p= .055. It has to be noted, that, as a non-parametric test, the Kruskal-Wallis is less powerful. If ANOVA could have been used, it might have picked up a significant difference between the low verbal ability groups.

4.2.3. Discussion

The results of the vocabulary and reading comprehension tests are discussed in the following sections. Since this study was a partial replication of Knight's (1994, cf. 3.1.2.) study and very similar in terms of text selection and test measures, the results were closely compared with hers.

4.2.3.1. Vocabulary learning

The scores for incidental vocabulary learning for the MC test were higher then for the SDef test. This difference was expected, because selecting a definition requires a lower degree of learning than supplying a definition.

In general, the mean scores for incidental word learning were lower in this study than in similar studies. Learning rates after only one encounter with the target word in the reading text are usually quite low, as studies with native-speakers (Nagy et al. 1985)
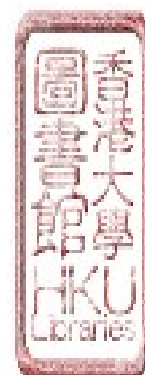
and foreign language learners (Hulstijn 1992) have shown. As a comparison of different investigations into incidental word learning by Horst et al. (1998: 209) showed, the learning rate for non-native speakers varied between 6 and 22 percent. However, with dictionary access, when learners do not have to rely entirely on contextual guessing, a higher learning rate can be expected, and was achieved by the subjects in Knight's (1994: 293), Hulstijn et al. (1996: 334) and Chun & Plass (1996) studies. Hulstijn et al reported that the group using the dictionary were able to supply the definitions of between 25 and 63 percent of the target words, depending on their frequency in the reading text. Chun & Plass' subjects scored between 24 and 26 percent of the target words in a supply-definition test, and even 77 percent in a multiple choice test (ibid: 188). However, as the research designs of Hulstijn et al. and Chun & Plass are quite different, the scores of the present study could be compared more closely only with Knight's (1994: 293). For that comparison, the scores were converted into percentages.

Table 4.13: Percentages of words learned in comparison with Knight's results

	Supply-definition test (SDef)		Select-definition test (MC)	
	Knight's study	Present study	Knight's study	Present study
No dictionary				
High verbal ability	7%	-	35%	-
Low verbal ability	5%	-	23%	-
Bilingual				
High verbal ability	21%	23.2%	55%	35.5%
Low verbal ability	19%	12%	51%	27.5%
Monolingual				
High verbal ability	-	11.9%	-	26.8%
Low verbal ability	-	8.7%	-	19%

In the supply-definition test, the results were not as different as in the select-definition test. The high-verbal ability subjects using the bilingual dictionary in this study achieved a slightly higher mean score than Knight's subjects in the same conditions. The subjects using the monolingual dictionary, although obtaining low scores, were more successful than the subjects without dictionary access in Knight's study, showing that this supposedly difficult dictionary is at least superior to contextual guessing.

Such a comparison is less useful for the select-definition test. As Table 4.13. shows, Knight's subjects achieved considerably higher scores. The group without dictionary

access scored even higher than the subjects using the bilingual dictionary in the present study. This difference is certainly attributable to differences in the multiple choice test design. As was discussed in 3.1.2.2.3., it is difficult to design an MC test. If, for instance, some distractors are obviously wrong, the test-taker has fewer problems in identifying the right answer. An MC test also lacks validity if several or even the majority of questions do not depend on the comprehension of individual words, as Nesi & Meara described (1991: 639 - 640). As Knight did not provide the MC test in an appendix of her article, a meaningful comparison of the results was not possible.

Knight's results showed that dictionary access gave the low verbal ability group a special advantage by enabling them to reach almost the same scores in the MC test as the high verbal ability students with dictionary access. Equally, it was expected in this study that low verbal ability students in the bilingual dictionary group would score significantly higher than their counterparts in the monolingual dictionary group. However, this hypothesis was not supported by the results. Only in the high verbal ability group, where it was less expected, did the bilingual dictionary give the learners an advantage.

The most likely explanation for this outcome is that the bilingual dictionary was the German-English one. While Knight's subjects used a bilingual dictionary for the foreign language and their native tongue (Spanish-English), in this study the learners dealt with equivalents in their second language. As discussed in 4.1.4., this dictionary type is obviously not as effective as the learners themselves perceive. The high verbal ability students have presumably a better command of English, too, and can therefore benefit more from this type of bilingual dictionary.

Some more measures were examined in order to discover whether the significant difference in the results of the SDef test could be attributed to the dictionary condition rather than to other variables. The higher scores of the high verbal ability students using the bilingual dictionary could for instance be due to a more painstaking attitude, spending more time reading the texts and looking up a larger number of words. Therefore the combined reading time for the two texts and the number of target words

looked up, as recorded by the computer (cf. 3.1.2.4.), were compared between the four groups.

Table 4.14.: Means and standard deviations of average reading times and average number of looked up words

	Reading time		Number of target words looked up	
	Minutes	SD	Number	SD
Bilingual				
High verbal ability	31.07	4	15.25	3.36
Low verbal ability	31.73	4.9	15.33	4.74
Monolingual				
High verbal ability	31.31	4.49	13.64	3.53
Low verbal ability	31.61	4.61	10.73	4.61

Table 4.14. illustrates that the reading times for the four groups were almost identical. In investigations of dictionary use versus no dictionary use it is usually the dictionary group that takes significantly longer to finish their tasks (Nesi & Meara 1991: 636, Luppescu & Day 1993: 275, Knight 1994: 294). As all subjects in this study had dictionary access, a significant difference was not expected. However, it was assumed that the groups using the monolingual dictionary would spend more time on the reading task, as dealing with monolingual definitions is presumably more difficult than selecting translation equivalents from the bilingual dictionary. The fact that there was no time difference can be due to the lower number of words looked up by the monolingual groups.

A likely explanation for this finding is that the subjects realised that the monolingual entries and definitions presented problems, and therefore restricted their look-ups. Although the subjects in the monolingual dictionary condition, especially the low verbal ability subjects, looked up fewer words than those in the bilingual dictionary condition, the difference was not significant, according to the Kruskal Wallis test (p = .051). Therefore it can be argued that the higher scores in the SDef test by the high verbal ability subjects can be attributed to the use of the bilingual dictionary.

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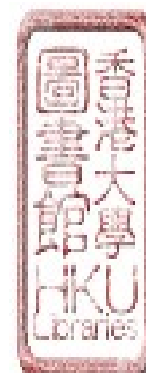
4.2.3.2. Reading comprehension

The reading comprehension results are rather low across the different conditions, but are consistent with Knight's results. For comparison, the results of both studies were converted into percentages.

Table 4.15.: Percentages of reading comprehension scores in comparison with Knight's results

| | Reading comprehension test | |
	Knight's study	Present study
No dictionary		
High verbal ability	22.8%	-
Low verbal ability	15.7%	-
Bilingual		
High verbal ability	27%	34.3%
Low verbal ability	22.8%	24.9%
Monolingual		
High verbal ability	-	32.3%
Low verbal ability	-	19.11%

Unlike the select-definition test, the subjects of this study achieved higher scores than Knight's. Nevertheless, the scores show that at best the subjects recalled just over one third of the propositions in the text, which gives the impression of a low rate of understanding. However, a closer look at other investigations into reading (Lee & Ballman 1987, Floyd & Carrell 1987: 99, Allen et al. 1988:167/8) revealed that the percentage range of recalled propositions is usually between 20 and 35%, with the lowest value, 5.3%, reported by Lee (1986:206), and the highest, 43.8%, by Bernhardt & Berkemeyer (1988:7). Therefore a percentage around 30% seems to represent satisfactory understanding of a reading text. However, at least for the subjects of this study it can be said that the immediate recall protocol is not the most suitable method for assessing comprehension, and even less suitable for assessing the effectiveness of dictionaries. It requires strategies quite opposite to those in which the learners have been trained in their foreign language classes. They are usually encouraged to understand the global meaning of texts and to avoid getting stuck with unknown words unless they are crucial for understanding. The recall protocol, however, requires attention to every unit, and the recall of as many details as remembered. Obviously, although the subjects were explicitly told about the recall task and its requirements before reading, they applied their usual reading strategies.

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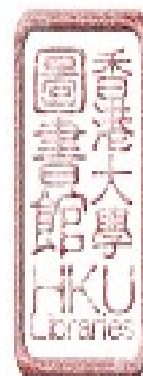
When assessing the recall protocols it became obvious to the judges that the majority of subjects reported only in a summary format, leaving out details which they regarded as unimportant for the global meaning of the text. Therefore they received low scores in the count of propositions. Furthermore, because of the subjects' previous reading strategy training, they tended to ignore unknown words instead of looking them up. This way a number of target words were not looked up, and the reading task negatively affected the possibility to assess the dictionaries.

Knight (1994: 293) found that there was no significant difference of reading comprehension scores between the high verbal ability groups in the dictionary and no-dictionary condition. The low verbal ability subjects with dictionary access, however, gained significantly higher comprehension scores than their counterparts without dictionary access. This finding was explained by the fact that weaker students are more dependent on vocabulary for reading comprehension, as they are less able to guess the meaning of unknown words from the context than high verbal ability students.

There is a strong indication that the same applies to the subjects of the present study, i.e. that the low verbal ability students, being more dependent on dictionary use, score higher with the bilingual one than with the monolingual. The difference between the scores of the low verbal ability groups was, as in Knight's study, larger than for the high verbal ability groups, although the significance level was just missed with $p = .055$. As was explained in 4.2.2., a more sensitive parametric test would presumably have picked up a significant difference between the low verbal ability groups. By contrast, the difference between the high verbal ability groups is very small, providing evidence that these students do not rely much on the dictionary for reading comprehension. Even if they look up words, they presumably make more use of contextual cues in combination with the dictionary definition in order to understand the meaning of words.

The fact that the reading comprehension of high verbal ability learners is to a lesser extent based on dictionary use supports the argument that reading comprehension tests lack validity for measuring the effectiveness of dictionaries.

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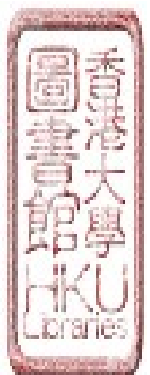
The data also revealed that the difference between the scores of the two groups in the monolingual dictionary condition was larger than between the two groups in the bilingual dictionary condition. Obviously it is especially difficult for weaker students to use the monolingual dictionary.

An interesting side finding was that the subjects performed better in the reading comprehension of Text 2. The mean percentage of recalled propositions for Text 1 was 21.94% (SD = 12.3), while the mean percentage for Text 2 was 36.26% (SD = 11.8). This finding provides support for the argument that the LIX readability formula has little predictive value about the difficulty of texts (cf. 3.1.2.2.1.). The LIX formula had identified Text 2 as slightly more difficult than Text 1, although the four judges rated it as easier than Text 1. The results show that at least in this study the LIX formula failed to predict the readability levels of the texts.

4.2.4. Summary

The results of the experiment indicate that the German-English bilingual dictionary is generally not significantly more helpful for the Hong Kong Chinese students' reading comprehension and incidental vocabulary learning than the monolingual one. However, because these results are drawn from a relatively small sample, this conclusion is tentative. In order to confirm the results, the experiment should be repeated with a larger sample.

In the survey, all 50 German students stated that they use the German-English bilingual dictionary , with only 4 percent using the German-Chinese bilingual in addition (cf. 4.1.1.). 71 percent of the German respondents gave as the reason for using this dictionary type that it is easy (cf. 4.1.2.1.4.) The experiment, however, revealed that this dictionary type is on most measures not significantly more effective than the monolingual dictionary. This implies that the subjects overestimate the effectiveness of their preferred dictionary. Another misjudgement concerns the monolingual dictionary: Although 96 percent of respondents assessed it as too difficult (cf. 4.1.2.1.2.), the results in this study contradict this assessment, as the monolingual dictionary was not significantly less effective than the German-English bilingual.
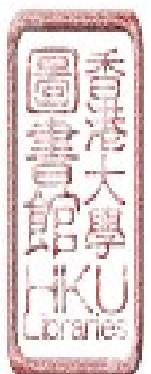
Since there is a disparity between students' assessment and the real effectiveness of their dictionaries, more evidence has to be found as to how the subjects work with these two dictionary types. The limitations of this quantitative study did not provide insights into the reasons why the German-English dictionary is not more effective, or into the kind of difficulties the learners experienced with both dictionary types.

In order to gain such insights, a small-scale think-aloud study was conducted. The results will be reported in the next section.

Other variables which might have influenced the results, such as the subjects' reading strategies and dictionary skills, as well as contextual factors which make some words easier to understand than others, could not be revealed through the experimental study. They will receive closer attention in the think-aloud study.

4.3. The small-scale think-aloud study

The selection of the four subjects for this study was described in 3.1.3.3. The subjects were given codes in order not to disclose their names. BL1 and BL2 worked with the bilingual dictionary, and LG3 and LG6 with the monolingual. The data collection procedures were discussed in 3.1.3.4. In order to triangulate the data with those from the previous experiment, the subjects were asked to carry out the same tasks, i.e. after reading the texts there were asked to write the recall protocols, and then they were administered the two unexpected vocabulary tests. A quantitative analysis of the test results was carried out first.

4.3.1. Quantitative analysis

Since the purpose of the quantitative analysis was triangulation, the first research question was the same as for the experiment.

> **Research question 1:** Which dictionary type, the German-English bilingual or the monolingual, is more effective for reading comprehension and vocabulary learning for Hong Kong Chinese intermediate learners of German?

The tape-recorded protocols were fully transcribed. Two judges analysed the transcripts for words which were successfully and unsuccessfully looked up. The method of determining whether a word was successfully or unsuccessfully looked up
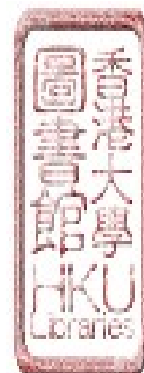
was described in 3.2.1.5.1. Although the subjects looked up more words, only the 23 target words were considered in the quantitative analysis, so that the results were comparable to the ones from the experiment. The SDef test and the recall protocols were also scored by the two judges.

Table 4.16.: Word understanding scores and test scores of participants in the small-scale think-aloud study

	Number of target words looked up	Number of words understood	SDEf scores	MC sores	Reading comprehension scores
BL1	13	6 (46.2%)	9 (39%)	9 (39%)	40 (46%)
BL2	17	11 (64.7%)	7 (30.4%)	8 (34.8%)	30 (34.%%)
LG3	15	11 (73%)	4 (17.4%)	4 (17.4%)	24 (27.6%)
LG6	9	1 (11.1%)	2 (8.7%)	4 (17.4%)	34 (39%)

The data in Table 4.16. show some irregularities. The subject who understood most words from the monolingual dictionary definitions, LG3, achieved the second lowest scores on the vocabulary tests and the lowest in reading comprehension. By contrast, LG6, who also used the monolingual dictionary, understood only one word from the dictionary, but had higher reading comprehension scores. Accordingly, in the bilingual dictionary condition, subject BL2 who understood more word meanings from the dictionary, had a lower comprehension score than BL1. In 4.2.3.2., the question was already discussed whether the reading comprehension test was an appropriate measure for the effectiveness of dictionaries. The above scores suggest that the number of successfully looked up words are not correlated to the reading comprehension scores. This question will be further discussed in 6.4.4. Because of the rather irregular pattern of scores, the evidence as to which dictionary is more effective is inconclusive, as it was in the experiment.

The results were generally in line with the ones in the experiments (for percentages cf. Tables 4.13. and 4.14.). BL1 and BL2, who were both high verbal ability students, scored both higher in the SDef test, and BL1' scores in all other measures were also higher than the average results of the experiment. This can be explained by the fact that she was within the top range of the high verbal ability group[30] (cf. 3.1.2.3.).

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[30] The mean score for high verbal ability students was 81.95 (SD = 4.4). BL1's verbal ability score was 89
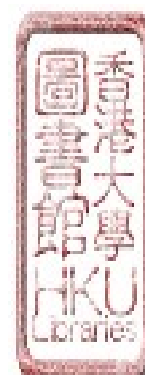
In the monolingual dictionary condition, the test results of LG3, a high verbal ability student, are below the averages of the experiment in all measures but the SDef test, despite the fact that she understood the majority of target words she looked up in the dictionary. A possible explanation is that she was exhausted by the think-aloud task, as she took, with 96 minutes, by far the longest time for reading, looking up words and reporting her thoughts. LG6, a low verbal ability student, had, apart from the comprehension score, very similar results to the low verbal ability group with monolingual access in the experiment.

4.3.2. Qualitative analysis

The aim of the small-scale think aloud study was to find any reasons for the success or failure of the subjects' look-up actions.

> **Research question 2:** Which factors cause successful and unsuccessful look-ups?

In 2.6.2.2., two studies were reviewed in which dictionary consultation was monitored through the think-aloud procedure (Neubach & Cohen 1988, Müllich 1990). However, in both studies the results were reported unsystematically. For instance, the reporting did not reveal whether an observed phenomenon appeared frequently or just once. Therefore, these studies did not offer any categories of factors for success or failure of look-up actions, on which the data analysis of this study could be based. The analysis was therefore carried out post-hoc. The procedure was described in 3.2.1.5.2. The successful look-ups and the unsuccessful look-ups formed the broad categories. The next step was to examine carefully the utterances made by the subjects during the process of looking up. In addition to the analysis of the utterances, the dictionary entries were scrutinised. Through this analysis, further categories could be developed. They are reported by dictionary type in the following sections.

The qualitative analysis was not limited to the 23 target words of the quantitative investigations. Given that the number of subjects in each dictionary condition was only two, there would have been not enough look-up actions to establish categories. Therefore all words which were looked up were included in this analysis. However, the numbers are still small, and therefore the categories were only preliminary ones which had to be confirmed in the main think-aloud study (cf. Chapter 6).

4.3.2.1. Unsuccessful consultation of the bilingual dictionary

The categories which could be established for unsuccessful use of the bilingual dictionary are shown in Table 4.17., together with the frequencies of occurrence. A short discussion of the individual categories follows below.

Table 4.17.: Categories of unsuccessful look-ups in the bilingual dictionary

Category	Number of occurrences	Percentage
1. Reading only part/ beginning of dictionary entry	6	35.3%
2. Failing to find the right entry	3	17.6%
3. Ignoring or misunderstanding symbols and abbreviations	3	17.6%
4. Not knowing the English equivalent	3	17.6%
5. Insufficient dictionary information	2	11.8%
Total number of words looked up unsuccessfully (out of 57 words looked up)	- 17	**100%**

As shall be further discussed in 4.3.3., the first three categories, or 76 percent of unsuccessful dictionary consultations are related to a lack of appropriate look-up strategies and dictionary training. In Category 1, the subjects read only the first translation equivalents in the entries, and missed the suitable ones which were listed later in the entries. The search was in all six cases abandoned without further attempts to find the word meaning. This behaviour was also reported by Neubach & Cohen (1988:7) and Müllich (1990: 296; cf. 2.6.2.2.).

Category 2 includes three cases in which the subjects failed to locate the right entry for the unknown words. Both subjects looked up the wrong word form of the verb 'auflösen'. The past participle, which appeared in the text, represents also an adjective with a different meaning. This adjective was looked up by the subjects, neither of whom searched the adjacent entries for the infinitive of the verb when realising that the adjective's meaning did not fit the reading context. In another case the wrong part of speech was looked up. Another problem was experienced with the compound noun 'Textillieferant', as the following excerpt shows:

Excerpt from TAP/BL2:
BL2: "*...gegen einen Textillieferanten...*", ehm, it's, eh, something with textile, but I don't know. [9] Textil..ie..ie [7]. So there is no this word in the dictionary. So I just skip it for once, ok?
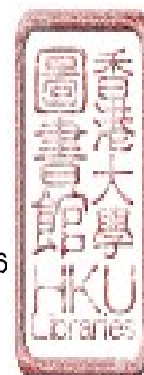
The student failed to split the compound into its composite parts, 'Textil-' and '-lieferant', and then tried to find the whole word in the dictionary. Had he looked at the adjacent entries, "Textilarbeiter' and 'Textilindustrie', he would have been able to identify the two parts of the word. The same problem was encountered by both monolingual dictionary users. Compound words are an inherent problem for dictionary users, as German is rich in compounds. Practising to identify the composite parts is therefore an essential part of dictionary training for learners of German.

In Category 3 there were three cases where the subjects either ignored or misunderstood symbols and abbreviations which indicated that the meaning belongs to an area of specialist terminology. In one case, the verb 'steuern' appeared with the meaning 'to guide' in the reading text. This meaning is listed at the very end of the entry. Both subjects read only the first group of meanings and found 'navigate, pilot' where a symbol indicated that the meanings belong to aviation terminology, and 'drive, steer' where the abbreviation 'mot.' indicated motoring as the subject area. According to the tendency not to read beyond the first part of the entry, which was described in Category 1, they noticed that the equivalents did not make sense in the reading context and abandoned the search. The fact that the subjects ignored symbols and abbreviations, or, as happened in another case, misunderstood them, points clearly at a lack of dictionary skills. Learners need to be aware that each dictionary has its, mostly individual, system of indicating the special use of certain word senses. At least, even if dictionary users do not take the trouble of checking in the user guide what the symbols and abbreviations mean, they should beware of using the meanings marked with them for other contexts.

In three cases, the subjects did not know the English equivalent. This gives some substance to the suspicion that the effectiveness of the students' preferred dictionary, the German-English bilingual, may be affected through the inability of the users to understand the English translation equivalents (cf. 4.1.4.).

In another two cases of unsuccessful look-ups, the dictionary did not include the suitable meanings for the reading context. As Scholfield (1982: 193, cf. 2.4.2.) points out, no dictionary can provide all the senses a word can have in the variety of possible contexts. Therefore dictionary users must be able to infer from the senses

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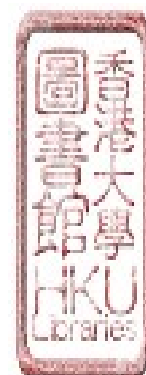
available, and from the reading context, a sense that fits. This, however, requires "sophisticated skills of inference" (ibid.), which need to be practised as part of dictionary training.

All but one of the above categories were confirmed in the main think-aloud study and are discussed in more detail, together with examples from the think aloud protocols, in 6.6.2.

4.3.2.2. Successful consultation of the bilingual dictionary

With non-target words included, there were 37 words which were clearly identified from the think-aloud protocols (TAPs) as understood. One strong factor for success could be identified, i.e. the position of the appropriate word sense in the dictionary entry. For 18 of the words which were successfully looked up, the suitable meaning was the first in the dictionary entry, and for another 5 words the suitable meaning was the second. For a further 8 words, the entries contained only one translation equivalent. That means that for 31 out of 37, or 83.8 percent of successful look-up actions, a major factor was that the subjects only had to read the beginning of the entries. This factor for success, the initial position of the target meaning, confirms Category 1 of unsuccessful look-ups, in which the subjects failed to find the suitable meaning, because it was not listed at the beginning of the entry.

As Scholfield explains, scanning the whole entry for the appropriate meaning is one of the strategies for successful dictionary use (1982: 188). Without this strategy, learners are likely to fail when looking up polysemous words, and especially less frequent meanings of polysemous words.

4.3.2.3. Unsuccessful consultation of the monolingual dictionary

As can be seen in Table 4.18., inappropriate dictionary strategies also led to failure in the use of the monolingual dictionary. However, the most common factor for unsuccessful look-ups was unfamiliar defining vocabulary.

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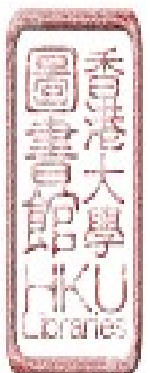
Table 4.18.: Categories of unsuccessful look-ups in the monolingual dictionary

Category	Number of occurrences	Percentage
1. Difficulties with defining vocabulary	10	41.7%
2. Derivational definition	3	12.5%
3. Definition structure	1	4.2%
4. Failing to find the right entry	4	16.7%
5. Reading only beginning of entry	1	4.2%
6. Others	5	20.8%
Total number of words looked up unsuccessfully (out of 45 words looked up)	**24**	**100%**

The first three categories present different problems the subjects experienced with the defining vocabulary and the structure of the LGDaF, while Categories 4 and 5 are concerned with dictionary strategies. Category 6 contains various look-ups which were unsuccessful because of contextual reasons, including four cases where the subjects looked up names from the text (Eden, Quelle, Otto) as proper nouns.

In Category 1, the definitions were not understood because they contained one or more unknown words. In the case of nouns, it was four times the superordinate which was unfamiliar to the subjects. As the LGDaF follows the lexicographic tradition of defining with genus proximum and differentia specifica (cf. 2.5.2.3.), many noun definitions consist of a genus word or superordinate which is followed by subordinate clauses explaining the specific differences. In all four cases where the superordinate was unknown to the learners, they did not understand the specific differences either. As the superordinate gives the word class and the semantic field of the word, the rest of the definition is usually inaccessible without that information. The following example illustrates how, because the superordinate was unfamiliar, the specific differences remained unclear to the subject, although she knew the vocabulary.

Excerpt from TAP/LG3:
LG3: Vorwurf? *"Eine Äußerung, mit der man jemandem deutlich sagt, welche Fehler er gemacht hat"*. Eine Äußerung? [15]
R: What are you thinking?
LG3: Because I have come over the word 'Äußerung' many times, I think, but couldn't remember what exactly the word means. But then, it goes with *"..mit der man jemand deutlich sagt, welche Fehler er gemacht hat"*. Is it, ehm, to tell the truth of something? Something like that.
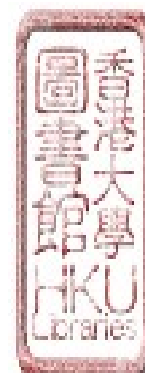
There were two nouns definitions ('Indiz', 'Ritual'), in which the subjects did not understand three out of four content words. Almost all of the unknown words were not part of the Basic Word List (cf. 3.1.2.2.2., 4.3.3., 5.2.1.). In two cases, the subjects undertook a second look-up action for one of the unknown words in the definition, but again unsuccessfully. One subjects expressed the frustration caused by the defining vocabulary:

Excerpt from TAP/LG3:
LG3: Oh, I always, I always hate looking up in a mono- mono-language dictionary, yeah. They have so many words I don't know, and then you need to ((laughter)) to look up words and words and, and then, maybe, some day, some time, you forget which word you were looking for."

The definitions in Category 2 present another type of vocabulary problem: three words could not be understood by the subjects because they were explained by derivational definitions. In these definitions, the unknown word is explained by its root words[31], as the following definition shows:

LGDaF definition: unbeliebt (bei j-m) nicht beliebt (2) ↔ gern gesehen

The following excerpt demonstrates that it was exactly this root word which the subject did not know:

Excerpt from TAP/LG6:
LG6: [2] nicht beliebt..., 'beliebt' means 'like' [2], 'unbeliebt' means 'unlike'. [2] I cannot get the whole meaning.

Defining 'unbeliebt' by providing the negative of its opposite, which in this case is also its root word, is not at all useful. Learners of German learn already at the beginners' level that the antonym of a word can be formed with the prefix 'un-'. Therefore the LGDaF definition 'nicht beliebt' only explains the meaning of the already familiar prefix, but gives no information about the content word 'beliebt'. In all three cases in this Category, it was exactly the root word which the subjects did not know, so that the derivational definition was of no help.

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[31] The term 'root word' is, linguistically speaking, not always appropriate. In the above example, 'beliebt' is not the root for 'unbeliebt' but is a derivation itself. Therefore, the term 'base word' would be more suitable in this case. However, in order to keep the terminology in this thesis simple, the term 'root word' was used in all cases of derivational definitions.
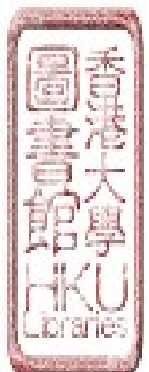
In one case the dense structure of a verb definition prevented understanding, despite the fact that the subjects understood the defining vocabulary. The definition of the verb 'verzichten' is difficult to read, as can be seen below:

LGDaF definition: verzichten; *verzichtete, hat verzichtet*; **Vi** (***auf j-n / etw.***) **v.** freiwillig ohne j-s Hilfe, Anwesenheit *o.ä.* bleiben bzw. etw. freiwillig nicht (mehr) benutzen, nehmen, tun *o.ä.*

Apart from the fact that the definition sentence alone contains five abbreviations, there are also features which would not occur in natural language. The inversion, where the genitive form "j-s" (somebody's) is in front of the reference word is as unusual as the enumeration "Hilfe, Anwesenheit" without a connector. The abbreviations and the bracket interrupt the flow of a natural structure and make decoding difficult. The TAP excerpt demonstrates that in this case unknown vocabulary is indeed not the problem, but the subject is unable to understand the syntactic structure of the definition:

Excerpt from TAP/LG3:
LG3: [13] Mhm, I would have difficulties understanding the [1] the meaning here [2]....'freiwillig' means 'voluntary', voluntary without sombody's help'? [4] That means you do something without [2] *"freiwillig nicht mehr benutzen' [13] ...bleiben, bzw. etwas freiwillig nicht mehr benutzen"* [1] I would guess the meaning may be they, the youngsters, they [2], they would eat [2] until, ehm, [2], that means they want to take voluntarily what they like, but [1] without anybody told.

The enumeration and the abbreviation 'o.ä' cut the verb 'bleiben' off, so that the learner is confronted with the incomprehensible combination 'freiwillig ohne j-s Hilfe'[32]. This combination, without the necessary verb, was then incorrectly integrated into the reading context. The difficulties learners of all proficiency levels have in dealing with abbreviations and "crowding" in dictionary entries were also reported by Neubach & Cohen (1988: 7, 11/2).

Unlike the bilingual dictionary condition, strategy mistakes were responsible for only 21 % of the unsuccessful look-up actions, while the defining vocabulary accounted for 54.2 % (Categories 1 and 2). In three of four cases the reason for failing to find the right entry (Category 4) was due to two compound nouns, 'Textillieferant' and 'Riesenbusineß', which the subjects could not split in the composite parts. The need

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[32] 'voluntary without somebody's help'; the correct reading would be: 'to stay voluntarily without someone's help, to go without someone's help'.

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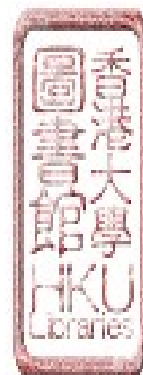
to include practice how to deal with compounds into dictionary training was already discussed (cf. 4.3.2.1.).

A surprising finding is that one strategy mistake, i.e. reading only the beginning of entries, accounted for 35.3% of failed look-up actions by the bilingual dictionary users, but only for one failed look-up action, or 4.2%, in the monolingual dictionary condition. This finding can perhaps be explained by the attitude of the users. The fact that the bilingual dictionary is regarded as easy may lead to an uncritical acceptance of the first equivalent in the entry. By contrast, the users of the monolingual dictionary expect difficulties and are more prepared to invest time and effort in their search.

4.3.2.4. Successful consultation of the monolingual dictionary

As in the bilingual dictionary condition, there is also clearly one main factor why searches in the monolingual dictionary were successful. For 11 of the 18 words which were identified as understood from the TAPs, the definition contained a segment which was familiar to the subjects and could be substituted as an equivalent for the target word. In the easiest cases, the definition consisted only of the equivalent, for instance:

LGDaF definition: schuften schwer arbeiten ≈ ackern

In cases when the equivalent was embedded in the definition sentence, it was picked out and the rest of the definition was ignored, as the following example shows:

LGDaF definition: Rätsel 1 e-e Art komplizierte Frage, bei der man raten od. lange nachdenken muss, um die Antwort zu finden [a type of complicated question for which one has to guess or think for a long time in order to find the answer]

Excerpt from TAP/LG3:
LG3: I look for the word 'Rätsel'. Actually, it's not so..., I think the word is not so important in understanding the meaning of the text. Maybe it's the position of the manager, the department he belongs "...der Manager das Rätsel.." [4] ((reads definition)) [2] das Rätsel [9]. Mhm, so 'Rätsel' is a complicated question, a problem.

Although it could be argued that, by ignoring the larger part of the definition, the subject did not reach a full understanding of the word meaning, she understood enough of the meaning to make sense in the reading context.

For the remaining seven words which were looked up successfully, no clear reasons could be established. However, six of them were understood by the high verbal ability
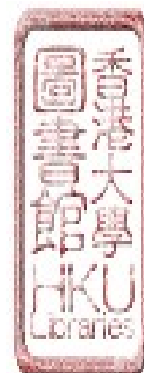
subject, LG3. She used contextual clues far more than the other students, and also hypothesised what an unknown word meant before she looked it up, as the above excerpt shows. Neubach & Cohen observed the same: their high-proficiency subjects were successful because of these strategies (1988: 8/9).

4.3.3. Discussion

The description of different categories was deliberately kept short in this Chapter because of the small scale of the study. It was intended to find preliminary answers to the research question which could serve as a basis for the research design of the next investigation. As the same research question was investigated with a larger number of students in the main think-aloud study, a more detailed discussion of the factors for success and failure in dictionary consultation, together with more evidence, is presented in Chapter 6.

For the bilingual dictionary, it became apparent that the main factors preventing successful dictionary consultation were strategy mistakes and lack of dictionary skills. Some strategy mistakes observed in this study, such as the failure to read beyond the first part of entries, were surprising, as the subjects' linguistic background suggests that they were experienced dictionary users. However, as the survey revealed, 44 per cent of the participants were not trained how to use dictionaries (cf. 4.1.3.).

A strong factor for success or failure of bilingual dictionary use was the position of the target meaning in the entry. The tendency not to read beyond the initial information in dictionary entries could be a common one. If this finding can be confirmed in the main think-aloud study and further research, it has the implication that in dictionary entries, the meanings should always be listed in order of frequency, with the most frequent meanings at the beginning of the entry. This way the learners have the best chance of finding the meaning they are looking for. While most dictionaries follow this principle, in the LGDaF, for instance, the meanings of polysemous verbs are listed according to grammatical characteristics.

There seems to be a strong tendency to abandon searches when the right meaning is not immediately found, especially among bilingual dictionary users. This may be due

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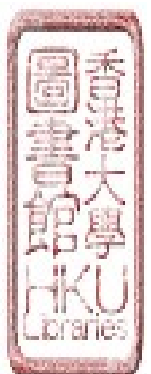
to the type of dictionary, the German-English one, and may reflect the fact that the students are used to not always understanding the English equivalents.

In the monolingual dictionary, the defining vocabulary is the main obstacle for learners to understand the meaning of words. This finding is consistent with Neubach & Cohen's (1988: 7) and Müllich's (1990: 178/9). In noun definitions, it is often the superordinate that blocks the understanding of the whole definition. Another obstacle is the derivational definition. Even in the small-scale think-aloud study, there were four cases of failed look-up actions because of unknown superordinates, and three cases because of derivational definitions.

The question arose whether these problems had occurred by chance through the particular selection of target words in the think-aloud study, or whether difficult defining vocabulary and derivational definitions are widespread phenomena in the LGDaF. To answer this question, a spot check of 60 LGDaF definitions was carried out. The 60 definitions were selected randomly, by choosing the fourth word on every tenth page in the LGDaF, starting from the letter 'd'. Only the first definitions of the selected words, but none of the other information categories were analysed (cf. Appendix 4.1.). The 60 definitions were scrutinised for potentially unknown vocabulary in general, unknown superordinates, and derivational definitions. In order to determine what is unknown vocabulary to intermediate learners, the Basic Word List was used. As was discussed in 3.1.2.2.2., the Basic Word List contains, with 2227 words, the obligatory vocabulary for the proficiency test Zertifikat Deutsch als Fremdsprache (ZDaF) which is usually taken by learners at this level. The words in the LGDaF definitions that are not part of the Basic Word List are likely to be unknown to intermediate learners, and were declared as unknown vocabulary in the spot check list. Further information concerning the Basic Word List is provided in 5.2.1. The results of the spot check are presented in Table 4.19.

Table 4.19. Results of spot check of 60 LGDaF definitions

Total number of words in definitions	583
Number of unknown words	94 (16% of total number of words)
Number of unknown superordinates	11 (18% of definitions)
Number of derivational definitions	9 (15% of definitions)

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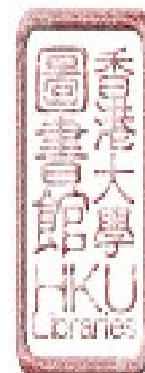
The results show that the problematic features of unknown vocabulary and derivational definitions appear regularly in the LGDaF. In 18 percent of the definitions, the superordinate is likely to be unknown to intermediate learners. As was argued in 4.3.2.3., an unknown superordinate may be especially detrimental to the understanding of the whole definition.15 percent of the definitions in the spot check list are derivational, i.e. the unknown word was explained by its root word. In all these definitions, the root word is also not part of the Basic Word List, i.e. likely to be unknown to intermediate learners. If the small sample of 60 definitions out of the LGDaF's 63.000 definitions is representative, the above results indicate that 33 percent of the definitions may not be understood by intermediate learners because of unknown superordinates and derivational definitions.

Unknown vocabulary in general, including the superordinates, accounts for 16 percent of the total number of words in the sample of 60 definitions. This percentage of unknown words is well above the 10 percent that create, according to Liu & Nation, a "high density text" (1985: 33, cf. 3.1.2.2.2.). A text that has a high density of unknown vocabulary is less likely to be understood. Considering that it is the task of the dictionary to explain words, high density definition texts are unacceptable. The percentage of 16% is even based on a very conservative calculation, because all items appearing in the definitions have been taken into account. These 583 items include 86 abbreviations, as well as articles, pronouns, and other functional words which contribute little to the understanding of the headword. Had only the content words in the definitions been counted, because they are the ones which convey most information (Carter 1987: 8), the percentage would have been much larger. The percentage of 16% is moderate for another reason: Several words in the defining vocabulary were either not used in their central meaning, or they were used in a difficult grammatical form[33]. In other words, although the words are presumably part of intermediate learners' vocabulary, they may not be understood in the way they are used in the definitions.

Even in the limited scale of this study, it became obvious that the LGDaF has characteristics which are unsuitable for intermediate learners, the most obvious one

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[33] For instance, the noun 'Körper' is used as a superordiante for a term from physics, 'Quader' but is likely to be known by the subjects in its central meaning 'body'.
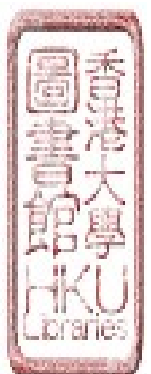
being the unrestricted defining vocabulary. Another characteristic of the LGDaF definitions is the complex syntax which is caused by the lexicographic defining style (cf. 2.5.2.3.). This characteristic is believed to create problems for learners (Kühn 1998: 38, Zöfgen 1994:131). However, there was only one case when a subject experienced a problem with the definition structure. Presumably, the lexical problems are predominant.

The finding that the defining vocabulary and perhaps other features in the LGDaF are unsuitable for intermediate learners is rather surprising. It was discussed in 1.4.2. that there are overall more intermediate than advanced learners of German. This means that the first German learners' dictionary was developed without considering, or more likely, without knowing the needs of the majority of potential users.

As a last point in this discussion, the advantages of the think-aloud method should be pointed out. In-depth findings such as deficiencies in dictionary skills, as well as the different problems encountered with the definitions, could not have been revealed with any other method. Pressley & Afflerbach's (1995: 119, cf. 2.3.1.) methodological reservations about thinking aloud do not apply to this study, as the guidelines for the procedures were carefully observed (cf. 3.1.3.4.). Furthermore, the data were triangulated with the previous experiment, showing that the think-aloud task did not produce fundamentally different results. Also, the data analysis was carried out by two independent judges, while the interpretation of the data was achieved through discussion between the two judges (cf. 3.1.3.5.). Therefore it can be said with confidence that the preliminary results of this study are reliable.

4.4. Summary

The results of the survey revealed that Hong Kong Chinese intermediate learners of German prefer the German-English bilingual dictionary for their language studies, clearly rejecting the bilingual dictionary involving their mother tongue, and the monolingual dictionary. The comparison with students of French showed that this preference is not unique to learners of German as a foreign language. The main reasons for this preference are the perceived easiness of the FL-English dictionary, and the perceived difficulty of the monolingual dictionary. The main questions arising from the survey results were

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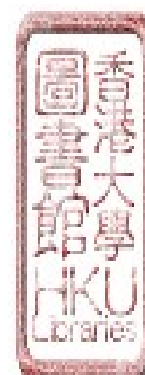
1) whether the German-English dictionary is really as effective as perceived by the students;

2) whether the monolingual is really so difficult as the students assume, or whether their judgement is rather based on prejudices.

The results of the experiment, although tentative because of the small number of participants, showed that the preferred dictionary type is not significantly more effective for incidental word learning and reading comprehension than the monolingual dictionary. The fact that the scores on both measures were, although in line with other studies, not very high, suggest that neither dictionary type is helpful enough.

The think-aloud study provided some reasons why neither the bilingual nor the monolingual dictionary were sufficiently effective for the subjects. The failures in the bilingual dictionary conditions were more attributable to learner-related reasons (cf. 1.1.), i.e. lacking reference skills, while those in the monolingual condition were more attributable to dictionary-related reasons. The defining vocabulary was experienced as the main difficulty. However, there was some evidence, too, that the bilingual dictionary users failed to find the meaning of words because they did not understand the English translations.

Considering the results, the dictionary situation for the subjects of this study, and as the survey suggests, for a larger number of foreign language learners in Hong Kong, is not satisfactory. The first main research question in this thesis asks which dictionary is most effective for intermediate learners (cf. 1.4.4.). Given the unwillingness of most students to use the German-Chinese bilingual dictionary and the fact that the German-English dictionary does not yield much better results than the monolingual one, perhaps the use of the monolingual dictionary should be encouraged. As discussed in 2.4.1., the majority of educators believe in the superiority of the monolingual dictionary over the bilingual, albeit without much empirical evidence for that superiority. In this learning context, it can be argued that there is a sound reason for recommending the monolingual dictionary at least for reading. If the monolingual would replace the German-English bilingual, the unsatisfactory situation in which the students deal with three languages and possibly
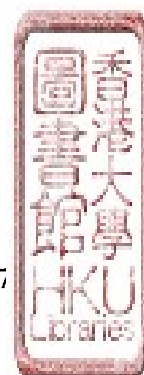
two translations in order to find the meanings of unknown words would be eliminated. In addition, if the cultural difference between Chinese and German is indeed so great that for many words there is no suitable translation equivalent, then this is an even stronger argument for the use of the monolingual dictionary which does not rely on translations, but explains words in their own cultural context.

Because of these arguments, the focus in the second part of the research was entirely on monolingual dictionary definitions. The second main research question in this thesis asks what features make monolingual dictionary definitions effective for intermediate learners.

The German monolingual learners' dictionary, the LGDaF[34] cannot straightforwardly be recommended to intermediate learners. As discussed in 2.5.2.2., and 2.5.3.5., it follows the tradition of the lexicographic definition which is hypothesised to create difficulties for learners at this proficiency level. As the preliminary results of the think-aloud study and the spot check showed, the uncontrolled defining vocabulary in particular is unsuitable for intermediate learners.

A monolingual dictionary is needed that is linguistically adequate for intermediate learners of German. In 2.5.3., the discussion on user-friendly features in learners' dictionaries was reviewed. It was further reported that COBUILD contains most of these user-friendly features (2.5.3.3.), but that so far empirical evidence of its effectiveness is lacking (2.6.3.). However, for the reasons explained in 2.5.3.3., the COBUILD definition style seems to be far more suitable for intermediate learners than lexicographic definitions.

Because no dictionary with the COBUILD definition style is available for German, new definitions were developed for sixty-one target words. The selection of the target words was explained in 3.2.1. The new definitions were modelled on the COBUILD definition style, while the features that were discovered to be difficult in the think-aloud study were avoided. In further investigations, the effectiveness of the new

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[34] When this study was conducted, the LGDaF was the only available learners' dictionary. For reasons explained in 2.5.1., the two more recent German learners' dictionaries were not considered for this research.
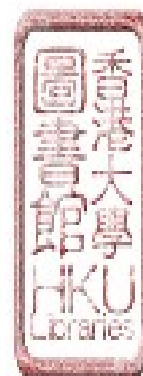
definitions and the LGDaF definitions was compared qualitatively (Chapter 6) and quantitatively (Chapter 7). Before these studies are reported, the rationale for the development of the new definitions is described in detail in the next Chapter.
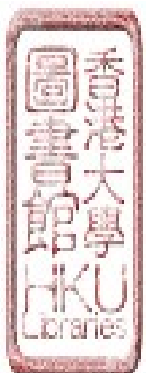
5.0. Introduction

In the previous Chapter, it was argued that Hong Kong Chinese intermediate learners of German should be encouraged to use the monolingual dictionary for reading (cf. 4.4.). However, preliminary results from the small-scale think-aloud investigation (cf. 4.3.2.3.) as well as the analysis of sixty definitions (cf. 4.3.3.) showed that the German monolingual learners' dictionary, the LGDaF, has features which are unsuitable for learners at that level. A main question in this research is what features make monolingual dictionary definitions effective for intermediate learners. In order to answer this question, different definition styles had to be tested. However, at the time of this research, the LGDaF was the only German learners' dictionary on the market. In order to compare the effectiveness of different definition styles, new definitions (NDefs) were designed with features that were hypothesised to be user-friendly. In order to describe in detail the contrast between the LGDaF definitions and the NDefs, it is necessary to provide a summary of those LGDaF features which are regarded as unsuitable for learners.

5.1. Difficult features in the LGDaF

In Chapter 2.5.2., the metalexicographic discussion about principles for the description of meaning in dictionaries was reviewed. It was reported that the features of the traditional lexicographic definition are widely considered inappropriate for learners' dictionary, mainly because they present unnecessary linguistic difficulties as well as unnatural language. The LGDaF, unlike modern English learners' dictionaries, follows the traditional style of lexicographic definitions in the following aspects.

5.1.1. Defining with genus proximum and differentia specifica

This definition technique was explained in 2.5.2.3. It was mainly criticised as inappropriate for learner lexicography, because it creates unbalanced and complex sentences, in which one or more subordinate clauses are dependent on a superordinate. Because of its classificatory nature, the technique requires a superordinate for every word. As a result, the superordinates can be far-fetched or too general. Also, they are often abstract and infrequent words. The definition

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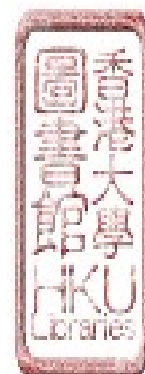
technique, although only appropriate for nouns, is forced onto other parts of speech as well, for instance adjectives. Table 5.1. shows examples of this definition structure which can be frequently found in the LGDaF.

Table 5.1.: Examples from the LGDaF of definitions with genus proximum and differentia specifica

	Superordinate	Specific differences
Kontrolle	die Handlungen,	mit denen man j-n/etw. (regelmäßig) prüft, um festzustellen, ob alles in Ordnung ist
arrogant	<ein Mensch> so,	daß er e-e tatsächliche od. eingebildete Überlegenheit anderen in verletzender Weise zeigt

The results from the think-aloud study showed that the subjects encountered problems with the superordinates in noun definitions (cf. 4.3.2.3.).

5.1.2. Text condensation

As explained in 2.5.2.5., condensation devices such as abbreviations, symbols, etc. are, on the one hand, used to save printing space. On the other hand they work towards the lexicographic principle of precision, as a lot of information can be packed into a minimum of space. While English dictionaries have increasingly done away with such devices, the LGDaF makes full use of them. Text condensation occurs particularly in verb definitions. Unlike definitions for nouns, a larger amount of pronouns is used in verb definitions to describe subjects and objects of actions. Frequently, the same indefinite pronouns ('jemand', 'etwas') describe, in abbreviated format, different referents, such as subject and object of the action. The definition of the verb 'verzichten' was already given as an example for a condensed definition text in 4.3.2.3., together with an excerpt from a TAP that showed that the condensation devices made the definition incomprehensible. The confusing use of abbreviated pronouns is shown in the following example:

> umstellen 3 *(j-n/etw.)* *((von etw.)* **auf etw.** *(Akk.))* **u.** etw. (für j-n) (in bestimmter Hinsicht) ändern

The fact that the indefinite pronoun 'etwas' has different referents, appears in different cases and with different prepositions, and that different typesets as well as five brackets are used, make the text incomprehensible for intermediate learners. Sophisticated decoding skills are required in order to understand what kind of information is conveyed by the different devices. Although the definition sentence

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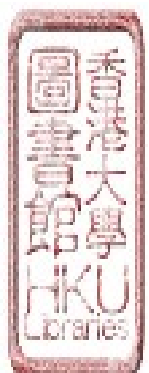
itself is in fact the very simple phrase 'etwas ändern', this is not easy to identify in the condensed entry.

5.1.3. The derivational definition

The technique of defining a word by means of its derivation from another word was discussed in 2.5.2.6. There were three cases in the TAPs when the subjects looked up derivational definitions. In each case they failed because they did not know the root word (cf. 4.3.2.3.). The spot check of 60 definitions revealed that 15 percent of them were derivational (cf. 4.3.3.). In all these definitions, the root word was likely to be unfamiliar to intermediate learners, too. Explaining the unknown headword by its unknown root word is clearly ineffective.

5.1.4. The encyclopedic definition

The LGDaF has drawn criticism for including far too much encyclopedic information into the definitions, especially into those of concrete nouns, thus making the definitions far more complicated as they need to be (Kühn 1998: 38/9). It was argued in 2.5.2.7. that this kind of information is redundant in learners' dictionaries. The target words of this thesis included several encyclopedic definitions, for example:

> **Eiweiß 2** e-e chemische Verbindung, deren relativ große Moleküle aus Kohlenstoff, Wasserstoff, Stickstoff und Sauerstoff bestehen ≈ Protein [protein 2 a chemical compound whose relatively large molecules consist of carbon, hydrogen, oxygen, and nitrogen]

5.1.5. Polysemy and entry lay-outs

It has been repeatedly required that learners' dictionaries should select the more prototypical senses of a polysemous word. Following the principle of preciseness, traditional dictionaries split words into as many meanings as possible (cf. 2.5.2.8.). As Kühn (1998: 46) asserts, the LGDaF follows the lexicographic tradition and presents almost as many word meanings as native speaker dictionaries. Among the target words for this thesis, there are several examples of the LGDaF's "inflationary polyvalencies" (ibid.). One example is the splitting into six senses of the adverb 'bereits' (cf. Appendix 5.1.), which can be in all six senses replaced with the simple equivalent 'schon' [already]. On the other hand, space-saving was a strict requirement in the design of the LGDaF (Götz & Haensch 1998:346). As a result, the
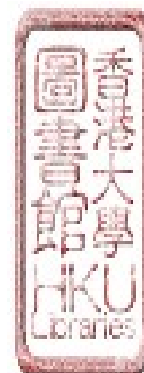
dictionary entries are very crowded. There is no clear visual separation of the different senses of polysemous words, as they are arranged in run-on entries. This causes bad readability which is aggravated by the condensation devices. An example showing how difficult such entries are to read and how difficult it is to find a particular sense can be found under 'laufen' in the LGDaF word list (Appendix 5.1.). The TAPs have revealed the strong tendency of learners to read only the beginning of entries (cf. 4.3.2.1.). Certainly, being faced with such entry formats encourages this behaviour.

5.1.6. Unrestricted defining vocabulay

With all the above features, the LGDaF appears anachronistic in comparison to its English counterparts. However, the feature which seems to affect learners' understanding most is the uncontrolled defining vocabulary. The fact that the LGDaF's defining vocabulary is too difficult for intermediate learners became apparent by the participants' comments in the survey (cf. 4.1.2.1.2.), as well as in the TAPs (cf. 4.3.2.3.). As discussed in 2.5.2.1., the LGDaF's team of lexicographers obviously had no other guidelines for controlling the defining vocabulary than using, as much as possible, simple vocabulary (LGDaF 1993: xix). The analysis of 60 LGDaF definitions showed that the percentage of unknown words, i.e. words outside the Basic Word List, is at least 16 percent (cf. 4.3.3.), high enough to seriously affect understanding. In many cases, uncommon[35] words are used, although they could be easily replaced by more common ones. This fact is illustrated by a few examples from the target words:

> **umstellen 4**: The example contains 'rasch' instead of 'schnell';
> **aus der Luft gegriffen**: The definition contains 'erfunden' instead of 'nicht wahr, unwahr';
> **Luft 4** and **Luft 8**: The definitions of the two noun senses contain the infrequent verbs 'strömen, herrschen, sich anbahnen'.
> **auflösen 5**: The definition contains 'Rätselhaftes', 'durchschaubar'. These are not only infrequent words, but morphologically difficult forms, because they are derived from an adjective and a verb respectively.

Furthermore, when frequent words are used in the LGDaF definitions, they sometimes appear in an uncommon sense, for instance:

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[35] In the absence of a corpus of general written and spoken German (cf. 5.2.1.), it cannot be reliably established whether words are common or uncommon.
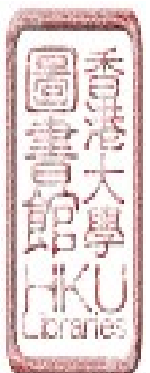
laufen 14 j-d wird in e-r Liste, Kartei *o.ä.*, als Besitzer e-s Autos od. *Kontos* <u>geführt</u>

Past participles of verbs unknown to intermediate learners (such as 'betreffen') appear regularly in definitions, although they are completely redundant for the understanding of the word meaning:

> **nüchtern** so, dass die <u>betroffene</u> Person kein Frühstück gegessen hat
> **laufen 13** ...entwickelt sich auf die <u>genannte</u> Weise

The lexical and syntactic difficulties created through superordinates were already mentioned in 5.1.1. An additional problem is that the superordinates are not used consistently in the LGDaF, as the following example shows:

> **Löffel 1** der <u>Gegenstand</u>, mit dem man *z.B.* die Suppe ißt
> **Gabel 1** ein <u>Gerät</u>, mit dem man feste Speisen ißt

In the LGDaF's 'Instruction for Users', the following explanation of how word meanings should be understood is given:

> "...Vielmehr erschließt sich die tatsächliche Bedeutung der Stichwörter dem Benutzer aus den Definitionen <u>und</u> den ergänzenden Angaben. Dazu gehören insbesondere Synonyme (...), Antonyme (...), Kollokationen (...), Anwendungsbeispiele und Komposita (...). Diese Fülle an Informationen bettet das Stichwort sozusagen in sein lexikalisches Umfeld ein, zeigt es in seinem üblichen sprachlichen Kontext." (LGDaF 1993: xx) [However, the real meaning of the headwords can be inferred by the definitions <u>and</u> the additional information, such as synonyms, antonyms, collocations, examples and compounds. This variety of information embeds, so to speak, the headword into its lexical environment, shows it in its usual linguistic context].

This "integrative concept" of inferring the meaning of unknown words from the combined information presented in the entries was reviewed as adequate and useful in a learners' dictionary (Kühn 1998: 37). However, the concept seems to be rather optimistic considering that average dictionary users, especially those below the advanced proficiency level, and those who do not possess sophisticated dictionary skills, might not take advantage of the variety of information. As research results have shown, learners tend to read dictionary entries in a superficial way and perhaps not beyond the first definition (Neubach & Cohen 1988, Müllich 1990, cf. 2.6.2.2.). Besides, the crowded entries and the condensed text in the LGDaF may discourage users from considering all the information offered. It is doubtful whether many
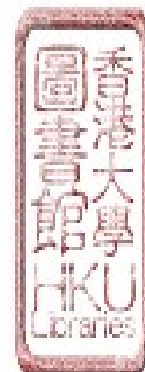
learners, especially intermediate learners, have the sophistication to synthesise the information presented in an entry into a comprehensive word meaning. Even if they have received the necessary training to do so, few may want to spend so much time on a dictionary search. The research evidence available suggests that the definition itself should carry sufficient and adequate information for the user to understand the word meaning. Neubert (1996:161) required from a learners' dictionary that users should be able to find the word meaning through one search, instead of having to look up more unknown words in the definition.

The previous section demonstrated that the LGDaF does not fulfil these requirements. The 'new definitions', called NDefs in this thesis, were designed with the aim of providing sufficient, clear, and adequate information within the definitions, by avoiding most of the difficult features described above.

5.2. Principles for the design of the NDefs

The principles which guided the design of the new definitions are based on

a) recommendations in the metalexicographic literature on learners' dictionaries (cf. 2.5.2. and 2.5.3.);

b) the results of the few research studies which revealed problematic features in learners' dictionaries (Neubach & Cohen 1988, Müllich 1990, as well as the results of the small-scale think aloud study, cf. 4.3.2.);

c) psycholinguistic research into the understanding and learning of words.

COBUILD's definition style which fulfils the criteria for user-friendly dictionaries (cf. 2.5.3.3.) served as a model for the NDefs.

From the difficult LGDaF features listed in 5.1., all but one were avoided in the NDefs. The number of meanings of polysemous words was not reduced in the NDEf entries. As the NDefs were to be compared with the LGDaF definitions, the NDef users should not be advantaged by fewer meanings and therefore shorter entries. For the same reason, apart from the definition sentences, no other information category, such as examples, collocations, compound words, as well as the order of different word meanings, was changed in the NDefs' entries, despite the fact that a number of
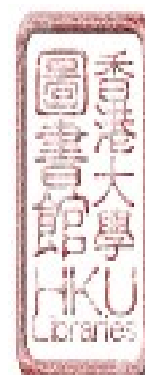
weaknesses were detected there as well[36]. However, in order to test the hypothesis that learners understand the defining style of the NDefs better only the variable 'definition' was changed.

NDefs were designed for sixty-one target words with 215 different meanings (cf. 3.2.1.2.). These sixty-one words include the target words of the first experiment as well as all the words which were registered by the computer as looked up by more than 15 per cent of the subjects in the experiment (cf. 3.2.1.2.). The complete word lists containing the sixty-one target words can be found in Appendices 5.1. (LGDaF entries) and 5.2. (NDef entries). In the following sections, the defining principles for the NDefs are explained and some examples are given.

5.2.1. Defining vocabulary

According to the TAP results, unknown words in the LGDaF definitions were the major obstacle to understanding. Despite some authors' doubts that a restriction of the defining vocabulary is feasible for the German language (Götz & Haensch 1998: 349, Herbst 1998: 23), the attempt was made to use a vocabulary of around 2000 words for the NDefs. This size is in line with the LDOCE's defining vocabulary of 2000 words, and the COBUILD's "natural" defining vocabulary of around 2,500 words (COBUILD 1995: xviii). While modern English dictionaries rely on their own corpus of natural spoken and written language to select the most frequent and most useful vocabulary for learners, the situation for German is different. There are no large corpora of general written and spoken language. Those corpora available are mainly specific corpora on newspaper or literary language. Consequently, for the German language there are no pedagogically oriented frequency lists for learner lexicography which are derived from corpora.

For this reason, the word list containing the obligatory vocabulary for the first standardised proficiency test in German, the *Zertifikat Deutsch als Fremdsprache* (*ZDaF*, cf. 3.1.2.2.2.), was chosen as the defining vocabulary for the NDefs. The Basic Word List (Deutscher Hochschulverband, Goethe-Institut 1985: 157 – 503) consists of 2227 lexical items, which was first developed by a Working Group of linguists and teachers of German as a foreign language between 1968 and 1971. Its

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[36] The vocabulary of the many examples, for instance, seems to be very difficult.
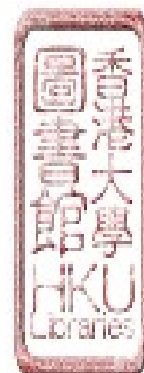
revised version of 1976 was used as the defining vocabulary for the NDefs. Just after this research was conducted, a new format of the proficiency test, together with a revised word list, was published. However, there was not one case when the vocabulary of the 1976 version seemed to be outdated for the design of the NDefs.

The selection criteria for the lexical items in the Basic Word List was their suitability for learners of German, especially for the needs of foreigners who have to deal with everyday communicative situations in German-speaking countries (ibid: 124 - 126). Because of the lack of suitable frequency lists, the Working Group had to find a different approach to word selection. The vocabulary size of around 2000 items was regarded as suitable, because it can be acquired in an elementary course and is sufficient as a functional basis for everyday communication (ibid.: 128). The Working Group used the word lists of textbooks for German as a foreign language as the source for their own corpus which consisted originally of 4000 words. The reduction to the 2227 items was achieved by members' suggestions, and discussions in selection subgroups (ibid.: 133 – 137).

It may be rightly argued that the Basic Word List as a defining vocabulary is much inferior to the statistically sound corpora from which English learners' dictionaries derive their defining vocabulary, and furthermore, that the pedagogical selection of words for the defining vocabularies in English dictionaries has a much stronger basis in early studies on vocabulary selection for teaching purposes, resulting in West's General Service List or Ogden's 'Basic English' (Carter & McCarthy 1988: 2 – 7). However, as was pointed out in 2.5.1., there is no long tradition in learner lexicography for German, and an alternative to the Basic Word List was not available. The main argument in favour of the Basic Word List as the defining vocabulary for the NDefs is that all lexical items are likely to be known to intermediate learners. Because the List contains the obligatory vocabulary for the ZDaF, all textbooks introduce that vocabulary during the elementary course.

The vocabulary of 2227 lexical items in the Basic Word List was almost sufficient as the defining vocabulary for the NDefs. For the definitions of sixty-one words with a total of 215 meanings, 43 words from outside the List had to be used. In choosing the extra vocabulary, an effort was made to use as many cognates of English as
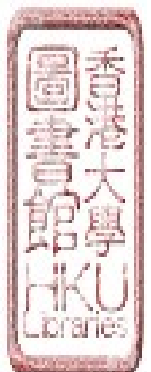
possible. Cognates of English are also called "international words" in textbooks of German, because most of them derive from Latin or Greek and exist in several European, mainly Romance languages. Cognates of English were expected to be helpful to the subjects of this thesis whose second language is English. Research evidence shows that cognate vocabulary is helpful in the understanding and acquisition of vocabulary (Odlin 1989: 77/8). Of the 43 words which were needed from outside the Basic Word List, 23 were cognates of English, while another 12 were related to lexical items in the List, for instance as derivatives (cf. Appendix 5.3.).

The fact that 215 word senses could be defined with less than 2300 words contradicts the argument that a restricted defining vocabulary might lead to a kind of metalanguage which would have a lower acceptance in German than in English (Götz & Haensch 1998: 349). Four judges assessed, among various aspects, whether the defining vocabulary affected accuracy and naturalness of the NDefs. Through their assessment and suggestions, overstepping "die Grenze zur Lächerlichkeit oder Pomposität" [the borderline of ridiculousness or pomposity] (ibid.) was avoided. However, there is certainly a need for research in order to establish how far a defining vocabulary for German can be restricted, and which words should be included.

5.2.2. The use of natural language
In 2.5.3.2., the use of natural language for user-friendly definitions was discussed. Definitions in natural language have neither any condensation devices, nor the classificatory structure of genus word and specific differences. They are usually given in full sentences. The words are often defined by or with the help of examples, and typical contexts as well as the words' register are included into the definitions. COBUILD exhibits all these user-friendly features in its word explanations. The meanings and the use of words are explained in "ordinary" English, avoiding a special metalanguage, as Sinclair (1993:123) explains. The aim in the development of the NDefs was to follow the model of the COBUILD definitions as closely as possible.

5.2.2.1. The full-sentence structure
Cowie points out that definitions in complete sentences often resemble 'folk definitions', of which they are "no doubt a sophisticated outgrowth" (1999: 169).

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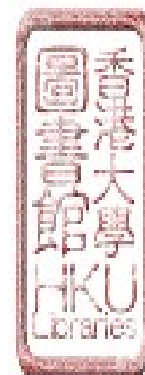
As COBUILD, the NDefs explain words in full sentences. Reading comprehension research provides psycholinguistic evidence why the full-sentence structure in definitions can be regarded as more helpful for learners than the structure of the lexicographic definitions. Reading comprehension is seen as an interactive process into which both text and reader bring information: the text offers factual information, the reader brings in information through his background knowledge (Bernhardt 1991: 15/6, Grabe 1991: 376/7). However, because definition texts are mostly condensed, as well as decontextualised, they are more difficult to decode than a coherent reading text. Dictionary definitions are often approached without even a hypothesis of what the unknown word means, and no background knowledge can be activated. An important factor in comprehension which facilitates the activation of background knowledge is the way a text is written. McKeown summarises what is widely recognised among researchers into reading:

> "Texts that exhibit coherence, characterized by a logical sequence of events and ideas and clear relationships among text elements, facilitate a reader's comprehension." (1993: 19)

Quite obviously, the full-sentence format offers more coherence and clear relationships among text elements than the lexicographic definition style. Zöfgen explains how the structures of the COBUILD definitions, for instance the 'if-then-structure' represents the sequence of events and ideas, the "Thema-Rhema-Beziehungen" (1994: 140).

The advantages of the binary structure of the COBUILD full-sentence definitions has already been explained in 2.5.3.3.: The first part demonstrates the syntactic properties of the word, while the second part explains the meaning. The word's selection preferences, as well as contextual restrictions, are therefore demonstrated by the definition itself, instead of by metalinguistic symbols and explanations.

How this style was applied to German is illustrated below for the different parts of speech.

5.2.2.1.1. Noun definitions
As mentioned above, the first part of the definition shows the selection preferences and restrictions of the headword. While "one of the most common selection

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preferences shown by verbs is for a human subject" (Hanks 1987: 125), "noun collocates are often many and various, and ...they do not occur in any regular structural relationship with the noun itself" (ibid.: 127). Therefore, in cases where there is no specific selection preference of the noun, no contextualisation is given in the first part. The definition has a simple equation format, but, unlike the LGDaF definitions, the copula 'ist' links the first part with the second:

NDefs: Ein **Hinterhof** ist...; Ein **Rätsel** ist...

If the noun has specific selection preferences, they are shown in the definition.

LGDaF: **Verstoß ein V. (gegen etw.)** e-e Handlung, mit der man ein Gesetz od. e-e Regel verletzt
NDef: 1 Ein **Verstoß gegen** das Gesetz ist ein Verbrechen, für das man bestraft werden kann.

The most common collocation for the noun 'Verstoß' is certainly the preposition 'gegen', in combination with 'Gesetz' [offence against the law]. However, while the COBUILD lexicographers can determine without fault the most common selection preferences by consulting the large corpus, The Bank of English, to determine this for a German word is, in the absence of a suitable corpus, left to the intuition of the lexicographers. As can be seen from the comparison of the two definitions for 'Verstoß', additional information has been added to the NDef. The rationale for including extra information, or so called redundancies, into the definitions is explained in 5.2.2.2.1.

In contrast to lexicographic definitions, definitions in full sentences have the advantage that lexicographers do not have to provide a superordinate for every noun. The following example, in which the superordinate 'Äußerung' was avoided, illustrates this advantage:

LGDaF: **Vorwurf** e-e Äußerung, mit der man j-m deutlich sagt, welche Fehler er gemacht hat
NDef: Wenn man jemandem einen **Vorwurf** macht, sagt man ihm deutlich, dass er Fehler gemacht hat.

The superordinate caused problems for the subjects in the think-aloud study (cf. 4.3.2.3.) and blocked the understanding of the rest of the definition .
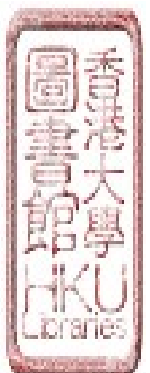
Many NDefs for nouns, as they have no selection preferences, were written in an equation format and therefore required superordinates. Because of the restricted defining vocabulary, several LGDaF superordinates had to be replaced, as the uncommon noun 'Stab' in the following example:

> **LGDaF: Riegel** ein Stab aus Metall od. Holz, den man vor etw. schiebt, um es so zu sichern
> **NDef:** Ein **Riegel** ist ein meistens langes, gerades, hartes Stück Metall oder Holz. Man schiebt einen Riegel vor eine Tür, damit sie nicht geöffnet werden kann

As in the example for 'Verstoß', the NDef carries more information. Also, in order to avoid complex syntactic structures with two subordinate clauses, the definition was split into two sentences. This technique was used several times in the NDEfs, although it cannot be found frequently in the COBUILD definitions. The reason for splitting subordinate sentences into independent main clauses was that in German subordination is more frequent, while in English more coordinating clauses, introduced with 'but' or 'and', can be used. The dependence of more than one subordinate clause on a superordinate was regarded as a weakness in the LGDaF definitions, which might cause syntactic problems for learners (cf. 4.3.3.). The following examples demonstrates how a LGDaF definition with two subordinate clauses was split into two sentences in the NDef:

> **LGDaF:** e-e Art komplizierte Frage, bei der man raten od. lange nachdenken muss, um die Antwort zu finden
> **NDef:** Ein **Rätsel** ist eine komplizierte Frage oder Aufgabe. Man muss raten oder lange nachdenken, um die Antwort oder Lösung zu finden

However, when if-clauses were used, especially in verb explanations, a second subordinate clause was often needed.

5.2.2.1.2. Verb definitions

Unlike nouns, there is a clear selection preference for verbs, i.e. for a human subject. COBUILD expresses this preference by addressing the reader directly with the pronoun 'you', as was illustrated in 2.5.3.3. This method of referring personally to the reader was not possible for German because of the 'du/Sie' distinction. 'du' is used for the informal addressing of young people and friends, and 'Sie' is the formal way of addressing adults, superiors, and strangers. If either pronoun was chosen for the
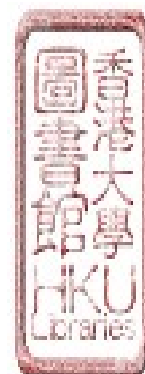
definitions, half of the potential dictionary users would be excluded as the addressees. Instead, the impersonal pronoun 'man' was used. The equivalent for the 'if'-structure of the COBUILD definitions was used in the NDefs, as can be seen in the example:

> **NDef: ernähren** Wenn man jemanden **ernährt**, gibt man ihm die Nahrung, die er braucht

Sinclair (1990: 127 – 129) described in which cases the COBUILD cotext in verb explanations is different from the above. For instance, when the action described is illegal, undesirable, unusual, or outside peoples' control, 'someone' was used instead of 'you'. Accordingly, in the NDefs 'man' was replaced by the indefinite pronoun 'jemand':

> **NDef: Beziehung 8** Wenn jemand **seine Beziehungen spielen lässt**, sucht oder bekommt er Vorteile durch seine Beziehungen

As can be seen in the example, if the subject 'man' or 'jemand' was referred to in the second part of the definition, only the masculine pronoun (er/ihm/ihn) was used in order to avoid confusion by too many pronouns, i.e. the masculine and feminine ones. The decision to use the masculine pronoun for reference throughout the NDefs was made with the awareness that this may be considered as politically not correct. If the NDefs were subject to external critical review, this issue would probably cause controversy.

In cases where the likely subject is very restricted, it was named (cf. Sinclair 1990:129), as in the following definitions:
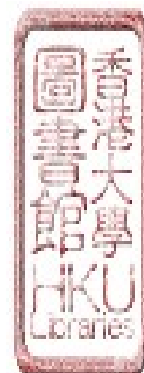
> **NDef: beschäftigen 1** Wenn <u>eine Firma</u> jemanden **beschäftigt**, gibt sie ihm Arbeit und bezahlt ihn dafür
> **NDef: ernähren 4** Wenn <u>ein Kranker</u> **künstlich ernährt wird**, kann er nichts selbst nicht essen und bekommt Nahrung durch Infusionen...

In the last example, the verb appeared in the passive voice, because the selection preference on the subject is very restricted for the active use of the verb. Usually, the passive voice was avoided in order to keep the syntax of the definitions simple.

When communal activities were described, "Leute" was used as the subject:

> **NDef: Kampagne** Wenn Leute eine **Kampagne** führen, argumentieren oder kämpfen sie öffentlich **für** oder **gegen** etwas,...

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Occasionally, the pronoun 'ich' was used, for instance if the double function of 'jemand' as subject and object in the definition sentence was to be avoided. How confusing the same pronoun in different cases, referring to different persons can be, is best illustrated through the LGDaF definition for the same word:

> **LGDaF: irritieren** *j-d/ etw. irritiert j-n* j-d/etw. macht j-n unsicher od. nervös, j-d/ etw. verwirrt j-n
> **NDef: irritieren** Wenn mich eine Person oder Sache irritiert, werde ich unsicher, nervös oder verwirrt

'ich' also was used when the explanation was directional, and other pronouns would have been confusing:

> **NDef: Unbekannte** Eine Person ist ein **Unbekannter** oder eine **Unbekannte** für mich, wenn ich sie nicht kenne

The infinitive was used when the selection preferences on the subject were "so general as to be not worth stating" (Hanks 1987: 126):

> **NDef:** Irgendwohin **steuern** bedeutet sich in eine Richtung zu bewegen: Das Flugzeug steuerte nach Süden.

5.2.2.1.3. Adjectives and adverbs

The LGDaF definitions of adjectives, in accordance with the principle of substitutability, rely on phrases such as "so, dass" or past participles as substitutes for the headwords. These syntactically awkward and complex structures are avoided by full-sentence definitions, as the following comparison of the two styles shows:

> **LGDaF: nüchtern 1** <u>so, dass</u> die betroffene Person kein Frühstück gegessen hat u. der Magen leer ist **3** von sachlichen Überlegungen u. nicht vom Gefühl <u>geleitet</u>
> **NDef: 1** Wenn man **nüchtern** ist, hat man kein Frühstück gegessen und hat einen leeren Magen **3** Eine **nüchterne** Person oder eine **nüchterne** Überlegung ist realistisch und nicht emotional

The NDefs use either the 'if'-structure for the definition of adjectives, or, in cases when there is a clear selection restriction on the noun[37], the equation structure, as in the third sense for 'nüchtern'.

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[37] The third meaning of nüchtern [sober] is largely restricted to persons or thoughts.
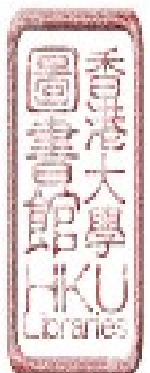
Metalanguage was usually required to explain the meaning of adverbs as well as function words, because the "appropriate level of generality could only be achieved by discussing the word being explained, rather than by encoding it in a typical phrase and explaining that" (Hanks 1987: 129). In the NDefs, an equivalent to COBUILD's phrase 'You use ... to indicate that..' was used: 'Man benutzt/sagt..., wenn ....':

> **LGDaF: freilich 1** verwendet, um etw. einzuräumen od. als selbstverständlich zu charakterisieren
> **NDef: 1** Man benutzt **freilich**, wenn man etwas selbstverständlich findet

The comparison with the LGDaF definition illustrates that the structure as well as the vocabulary of the NDef is simpler and complies more with the requirement for natural language in definitions.

5.2.2.2. Integration of redundancies and examples

One part of natural language explanations is that they use redundancies as well as examples to illustrate the explanation (Stock 1988:84, Zöfgen 1994: 140).

5.2.2.2.1. Redundancies

According to Zöfgen, redundancies in definitions are advantageous for learners, especially in the definitions of abstract words (1994: 136, 140). Müllich praises the full-sentence definition style of COBUILD, because "...many more students feel reassured by this well-known method and by a certain redundancy giving additional security by confirmation" (1990: 491). Kostrzewa also regards redundancies in definitions as helpful for understanding. He describes redundancies as the modified repetition of defining segments, as well as the addition of illustrative examples (1991: 68). Kostrzewa found that his subjects understood definitions better when the target words were explained with different expressions which had similar meaning components (ibid. 103). He regards redundancies as effective because they reduce the number of items in the definition which have to be stored in memory (ibid.: 100).

Unlike Kostrzewa who counted examples under redundancies as well, here redundancies are understood only as defining segments which are repeated in a modified form, as well as additional informative phrases. While these modified defining segments deliver more information about semantic properties of words,

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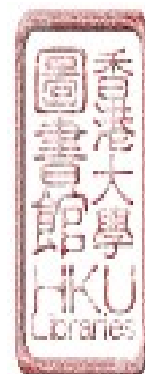
examples apply the word to a different context. They are dealt with in the next section.

In the following definitions, redundancy was achieved by using two nouns with similar meanings for one notion:

> NDef: Rätsel Ein Rätsel ist eine komplizierte <u>Frage</u> oder <u>Aufgabe</u>. Man muss lange nachdenken, um die <u>Antwort</u> oder <u>Lösung</u> zu finden
> **NDef: Verstoß 2** Ein **Verstoß gegen** Regeln ist ein <u>Benehmen</u> oder <u>Verhalten</u>, mit dem man die Konventionen verletzt

The additional information provided in the NDefs is redundant for someone who knows the word, but is expected to facilitate understanding if the word meaning is unknown. The following example shows how the NDef offers additional information:

> LGDaF: **Vertrag** e-e Vereinbarung zwischen zwei od. mehreren Partnern, die
> - für beide Partner gesetzlich gültig ist
> **NDef:** Ein **Vertrag** ist eine <u>meistens schriftliche</u> Vereinbarung oder <u>Kontrakt,</u> <u>z.B. zwischen zwei Firmen</u>. Der Vertrag ist für beide Partner gesetzlich gültig

In comparison to the LGDaF definition, the NDef provides three helpful features: Firstly, the information that a contract is 'mostly written'; secondly the addition of the synonym 'Kontrakt'; and thirdly the addition of the example 'z.B. zwischen zwei Firmen'.

The aim of redundancies is not only to offer the learner confirmation that what he understood was right, but also to offer him an additional chance to understand the word meaning, in case he has not understood one defining segment. Also, redundancies have a 'decompressing' effect on definitions, as they distribute the burden of explaining onto more words. Redundancies were frequently built into the definitions.

5.2.2.2.2. Examples

The purpose of integrating additional information as well as examples into the NDefs was to make the context richer, and therefore the concept of the unknown word more "imageable".

One of the psycholinguistic factors which facilitate word learning is the "imageability of concept"; i.e. how easily can the meaning of a word be imagined:

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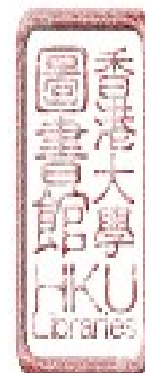
"...the greater the imageability of a word – that is the degree to which it arouses a mental image – the more likely it is to be recalled (Ellis & Beaton 1995:114).

Psycholinguists have consistently found that subjects learn and remember concrete words better than abstract ones (Carter 1987: 152; Hulstijn 1997: 213). According to the imageability hypothesis (Paivio 1971, cited in Hulstijn ibid.), mental images help to learn and remember words. These are more likely to be generated for concrete words than for abstract words. The context availability hypothesis assumes that concrete or imageable words have meaningful contexts; i.e. in semantic memory they are associated with a larger number of features, or predicates, than words with less meaningful contexts. These features can easily be accessed by subjects through their world knowledge. Accordingly, a characteristic of meaningful contexts is their "ease of predication", i.e. how easily what the word refers to can be described "by simple factual statements"[38] (Jones 1985, cited in Ellis & Beaton 1995: 154). Research has shown a high correlation between imageability and ease of predication (Ellis & Beaton 1995: 154).

These hypotheses of meaning are usually applied to word learning and teaching[39]. However, they have implications for definition writing as well, as they offer explanations as to how word meanings are best described in order to be understood by learners. The process here is the reverse: For word learning, the meaning of the target word is known already, and mental images associated with the predicates of that word help to remember it. In the dictionary, the target word is yet unknown, and mental images associated with the predicates can help to to understand it.

Schouten-van Parreren (1989: 78) stresses that a "contextual explication" should evoke images and emotions which support the process of understanding new words. If the imageability and context availability hypotheses are applied to the design of definitions, predicates which evoke mental images should be included. Such

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[38] Jones (1985: 6, cited in Ellis & Beaton 1995: 154) demonstrates the "ease of predication" with the concrete noun 'dog': " a *dog* is a type of animal, a *dog* barks when angry, a *dog* has four legs, a *dog* wags its tail when pleased...". The example shows that 'dog' has a meaningful context with several predicates which can be described in simple language.
[39] For instance in the keyword method a keyword with a concrete meaning should be chosen (Hulstijn 1997: 213).

predicates can be phrases with additional information, which were described above as one type of redundancy, or examples that make the concept of a word imageable. If the predicates are indeed expressed in "simple factual statements", learners will have little difficulty in understanding them. Simple factual statements usually are linguistically simple, i.e. devoid of lexical and syntactic complexity. If the definiendum is an abstract word or a figurative sense of a word, the definition should still aim at making the concept imageable. This can be achieved by enriching the definition context with predicates such as examples.

A meaningful definition context that offers additional information, such as redundancies and examples is defined in this thesis as a rich definition context. If a definition does not offer predicates that evoke mental images it is called a poor definition context.

In the NDefs, examples were included in most definitions:

> **LGDaF: beschäftigen 5** *sich (mit etw.)b.* mit e-r Tätigkeit seine Zeit verbringen
> **NDef: beschäftigen 5** Wenn man sich **mit** etwas, z.B. mit Literatur, **beschäftigt**, verbringt man seine Zeit damit

> **LGDaF: verzichten** *(auf j-n/ etw) v.* freiwillig ohne j-s Hilfe, Anwesenheit *o.ä.* bleiben bzw. etw. freiwillig nicht (mehr) benutzen, nehmen, tun *o.ä.*
> **NDef: verzichten** Wenn man **auf** etwas, z.B. auf das Mittagessen, **verzichtet**, entscheidet man sich, es nicht zu essen, zu nehmen oder zu benutzen

The examples are introduced with "z.B." [for instance] which is the only abbreviation used in the NDefs.

Occasionally another example sentence was added to the definition, as in the case of the abstract noun 'Indiz':

> **LGDaF: Indiz** etw., das darauf hindeutet, dass j-d ein Verbrechen begangen hat
> **NDef:** Ein **Indiz** oder **Indizien** sind die Informationen, die z.B. der Polizei zeigen, dass jemand ein Verbrechen begangen hat. Ein Indiz kann ein Gegenstand, z.B. ein Handschuh, sein, den der Verbrecher am Tatort vergessen hat.

Apart from promoting understanding of the unknown word, the integration of examples has another advantage: examples help to show words in their typical
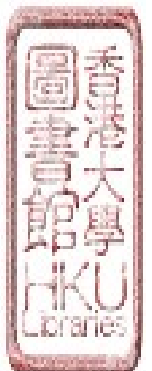
context. This can be clearly seen in the definitions of the verbs 'beschäftigen' and 'verzichten' which were shown above. While the LGDaF needs patterns in front of the definitions to illustrate with which prepositions the verbs collocate, in the NDefs this is first illustrated by embedding the structure in a full sentence ('Wenn man sich **mit** etwas **beschäftigt**...'), and then reinforced by the example ('z.B. <u>mit</u> Literatur...').

5.2.2.3. Integration of the word's register

In natural language explanations the word's register is often incorporated into the explanation. By contrast, in lexicographic definitions, such as the LGDaF's, the register is one of the several in the "collection of discrete parts, with the information given about the lexical item separated into sections" (Stock 1988: 85). COBUILD's strategy for dealing with figurative senses of words is using the phrases 'If you say that..' or 'If you call someone a..' (Hanks 1987: 133). In addition, labels are presented stating whether a word is old-fashioned, informal, offensive, etc.

The NDefs follow the same strategy. As the following example of the noun 'Ritual' shows, the label '*hum*' is not necessary, because the definition sentence describes that the noun is used in a humorous sense.

> **LGDaF: Ritual 3** *hum*; ein Vorgang, der immer wieder auf die gleiche Weise ausgeführt wird
> **NDef: Ritual 3** Wenn man eine feste Gewohnheit oder etwas, das Leute ganz regelmäßig tun, ein **Ritual** nennt, meint man das humorvoll

COBUILD uses a similar strategy for idiomatic expressions (Hanks 1987: 134). In the same way, the NDefs describe idiomatic use of words and phrases with the structures 'If you say,..' or 'You say...., if...'. The following example shows how an idiomatic phrase in the LGDaF is explained by another idiomatic phrase. Idioms in the LGDaF are listed at the bottom of the entry, introduced by the symbol ID. An extra label, '*gespr*' indicates that the idiom belongs to spoken language.

> **LGDaF: Witz** *Du machst wohl Witze!* *gespr*. Das ist nicht dein Ernst
> **NDef: Witz 4** Man sagt: **Du machst wohl Witze!**, wenn man glaubt, dass die Person etwas nicht ernst meint

This example shows that the LGDaF user needs not only a good knowledge of the dictionary's labeling system, but also an advanced vocabulary to be able to understand the idiomatic synonym. By contrast, the NDef user does not need

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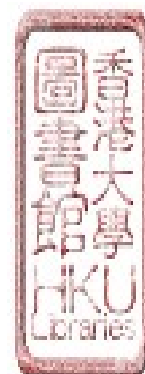
advanced decoding skills, as no metalanguage is used in the definition. The fact that the idiom belongs to spoken language is expressed as part of the definition with 'Man sagt'.

5.2.3. Avoidance of vague language

McKeown (1993: 20) analysed definitions for weaknesses which can be problematic for learners. One of four potentially difficult features of definitions was "vague language". This means that the wording of the definition has low explanatory power, for instance if it does not provide sufficient meaningful information. Three types of vagueness were discovered in the LGDaF: vagueness through the use of indefinite pronouns, vagueness through the use of too general definitions, and vagueness through the density of symbols and abbreviations.

5.2.3.1. Vagueness through indefinite pronouns

The density of indefinite pronouns is especially confusing in the LGDaF's verb definitions. The use of the same pronoun in different functions within one definition was already discussed with the example of 'irritieren' in 5.2.2.1.2., and it was demonstrated how in the NDef, in order to avoid the double function of the indefinite pronoun, the personal pronoun replaced it.

LGDaF verb definitions reach the ultimate level of confusion when the verb pattern is rather complex, for instance when the verb can have an animate and an inanimate subject, as well as two objects, one in the dative and one in the accusative case. In those cases the abbreviated indefinite pronoun 'jemand' appears in the double function of subject and dative object, while the abbreviated indefinite pronoun 'etwas' appears as subject and accusative object.

> **LGDaF: liefern 3** *j-d/ etw. liefert (j-m) etw.* j-d stellt j-m etw. zur Verfügung ≈ j-d/ etw. bietet (j-m) etw., gibt etw. her

For verbs with such grammatical patterns the full-sentence definition has the advantage that the complex information is more spread out. Instead of using the pronouns twice, the NDef has 'person or thing' as the subjects, and the indefinite pronouns as objects. As the verb meaning is abstract, an example is also included to promote understanding (cf. 5.2.2.2.2.):

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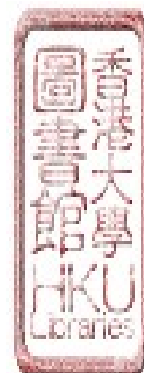
NDef: **liefern**[40] **3** Wenn eine Person oder Sache jemandem etwas, z.B. einen Grund zum Lachen, **liefert**, gibt sie ihm etwas

The subjects 'person or thing' are also unspecific, but at least there are distinguished from the objects '...jemandem etwas...'[someone something]. A more specific definition is not possible, because the verb can collocate with various subjects and objects. However, since the indefinite pronoun 'etwas' is qualified with an example, the overall information is less vague than in the LGDaF definition.

5.2.3.2. Vagueness through ignoring selection preferences

Some quite striking vagueness of language occurs in the LGDaF when the principle of precision was obviously followed closely, and words were defined in too general a way, in order to make the definition applicable for any possible instance of the word's use (cf. 2.5.2.2.). In this type of definition it was not considered whether the word indeed appears in a variety of contexts, or whether the selection is restricted. The following example illustrates that:

> LGDaF: **laufen 19** *sich irgendwie l.* so lange l.(1,2), bis man in e-m bestimmten Zustand ist <sich müde, warm, wund l.>

The reflexive verb means 'to walk yourself...<tired, warm...>', defined as 'to walk so long, until one has reached a certain condition'. In order to keep the definition general enough to apply it to any possible condition into which one can walk himself, the infinitive of the verb ist given as 'to walk yourself somehow'. As a result, the information is vague to the point of being meaningless, and certainly of little help for learners. This case demonstrates that COBUILD's defining strategy of describing how a word is typically used rather than how it might possibly used is clearly more useful (Hanks 1987: 121/2). The LGDaF presents in pointed brackets the typical collocations of the verb. Apart from these three adverbs, it is hard for German native speakers[41] to think up more collocations which are commonly used. Therefore, as the verb seems to appear mainly in three collocations, it is not necessary to define it in such a general

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[40] It has to be noted that the entry of 'liefern' is a typical example of the LGDaF's splitting of word meanings into too many senses. The third sense, 'to deliver an abstract object' is unnecessary. If learners understand the concept of 'deliver', as explained in the first sense, it is irrelevant to them whether the object is concrete or abstract.

[41] To test this, four German native speakers were asked to name more possible collocations. Again, for such questions a reliable corpus is needed.
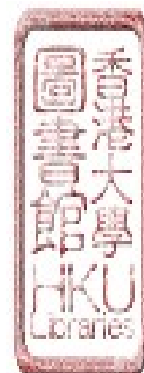
way. In the NDeF, one of the typical collocates was integrated into the definition sentence:

> **NDef: laufen 19** Wenn man **sich** müde **läuft**, läuft man so lange, bis man müde ist <sich warm laufen, sich wund laufen>

For the learner, the task to replace the adverb 'müde' with one of the other common collocates is far easier than to decode the LGDaF definition.

5.2.3.3. Vagueness through abbreviations

As already discussed in 5.1.2., LGDaF definitions, especially verb definitions, contain a large number of condensation devices, including abbreviations. These are used in order to convey a maximum of information in a minimum of space. Apart from the fact that these devices make the entry text difficult to read, the definition sentence itself can be confusing especially through the abbreviations. In the definition of the verb 'verzichten' [to forego, to do without], obviously a large number of things one can do without could be named. However, it seems less helpful to indicate this variety through the abbreviation 'o.ä.' [or something similar], than giving one typical example, as in the NDef:

> **LGDaF: verzichten** *(auf j-n/ etw)* *v.* freiwillig ohne j-s Hilfe, Anwesenheit *o.ä.* bleiben bzw. etw. freiwillig nicht (mehr) benutzen, nehmen, tun *o.ä.*
> **NDef: verzichten** Wenn man auf etwas, z.B. das Mittagessen, verzichtet, entscheidet man sich, es nicht zu essen, zu nehmen oder zu benutzen

Again, the NDef follows the COBUILD strategy to state the typical rather than the possible. This and the previous example show that the assumptions concerning the users' abilities are quite different between the two definition styles. While the users of lexicographic definitions are provided with a lot of information, they are expected to have the necessary reference skills to decode that information. These reference skills are dictionary-specific ones, as they comprise a firm knowledge of the specific conventions of the dictionary. This knowledge can only be acquired through careful study of the user instructions and through dictionary training. As research has shown, many learners have neither read the instructions carefully (Béjoint 1981: 216, Zöfgen 1994: 58), nor received dictionary training (cf. 2.4.2.). As the conventions differ considerably among dictionaries, it cannot be expected that the use of one dictionary enables learners to understand the system of another one.

By contrast, the users of COBUILD definitions do not need special decoding skills, as no metalanguage is used. However, they are expected to have transfer skills, as they are offered typical examples which they themselves have to apply to less typical contexts.

As a rule, condensation devices were avoided in the NDefs. They are not needed, because the use of the unknown word is demonstrated by the definition itself, not by metalanguage.

5.2.4. Avoidance of other difficult features

Two more features which are regarded as unsuitable for learners were avoided in the NDefs, namely the derivational definition and the encyclopedic definition.
The first example shows how the LGDaF explains the keyword by the root word, while the NDef explains the root word:

> **LGDaF: unbeliebt** *(bei j-m) u.* (bei j-m) nicht beliebt (2) ↔ gern gesehen
> **NDef: unbeliebt** Jemand ist unbeliebt, wenn andere Leute ihn nicht mögen

The TAP of one subject looking up this word in the LGDaF revealed, that she did not know the root word, and therefore the derivational definition was of no use to her (cf. 4.3.2.3.).

As was discussed in 2.5.2.7., encyclopedic information has no place in learners' dictionaries, but can be found frequently in the LGDaF. In 5.1.4., the LGDAF definition of 'Eiweiß' was presented, in which the word is explained by its chemical consistency. This information was replaced in the NDef by information about the function of the word :

> **NDef: Eiweiß 2 Eiweiß** ist eine Substanz, die man besonders in Fleisch, Eiern und Milch findet. Man braucht **Eiweiß**, um zu wachsen und gesund zu bleiben ≈ Protein

This kind of information fulfils the requirement for "less classificatory and more pragmatic definitions" for learners dictionaries (Weinreich 1976: 362, cited in Zöfgen 1994: 143, cf. 2.5.2.7.). All encyclopedic information in the LGDaF definitions was replaced by pragmatic information in the NDefs.

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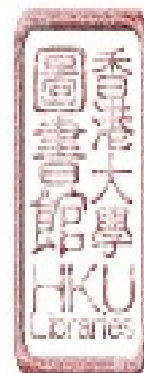
5.3. The entry format

In 2.5.2.8. and 5.1.5., the LGDaF's treatment of polysemous words was assessed as unsuitable for learners. Not only are there too many sub-meanings of words, but they are also listed in crowded entries with no clear visual separation of the meanings from each other. This makes it difficult to find individual senses.

However, in the NDefs the number and order of word meanings were taken over from the LGDaF, for reasons explained in 5.2. Since the aim of the research was to compare the effectiveness of the defining styles, the change of other information types could have affected the results. Only in two cases was additional information provided in the NDefs. For each of the words 'lostreten' and 'Verstoß' an essential meaning is missing in the LGDaF. Especially for the verb 'lostreten', the missing meaning seems to be much more frequent than the one presented. Quite importantly, the missing meaning was also the one which the word carried in the reading text for this research. The missing meanings were added in the NDefs. Even within the limited number of target words for this study, several words are split into too many meanings, while others do not have important meanings represented. This points to the drawbacks of a dictionary that was compiled without corpus basis.

While the contents of the entries remained unchanged apart from the definitions, the NDefs' entry lay-out was modelled on the format of COBUILD's entries. The intention of this change was to test whether a clearly arranged entry format would tempt the users to read it more carefully. Perhaps the observed learner behaviour of reading only the beginning of entries (cf. 2.6.2.2., 4.3.2.1.) is mainly caused by the crowded entries.

Each meaning of polysemous words is presented in its own paragraph. Idiomatic expressions are listed and numbered as meanings of the headword. In the definition sentence, the headword appears in bold print. The definition is followed by the unchanged information from the LGDaF entries, i.e. collocations, examples, and compounds of the headword. However, grammatical and usage information is . presented in an extra column on the right side of the main text. This extra column is praised "the most outstanding feature" of COBUILD by Boogards (1996: 288), because grammatical information is given a prominent place without it cluttering the

entry itself. It has also been recognised that COBUILD provides separate grammar information despite the fact that essential grammar is already provided by the wording of each definition (ibid.: 305, Carter 1989: 32).

5.4. The assessment of the NDefs

The NDefs were written by the researcher following the COBUILD principles closely. In cases when the vocabulary of the Basic Word List was not sufficient to describe a meaning, it was attempted to use frequent words or, as explained in 5.2.1., cognates of English. In general, whether the definitions were expressed in a simple, but accurate way was largely left to the compiler's intuition. Therefore, some form of assessment of the NDefs' accuracy and adequateness was needed. For this purpose, the definition guidelines together with the NDefs were given to four German native speakers. All judges are qualified in German linguistics and teachers of German as a foreign language. One of the judges participated in several seminars and projects on lexicography during her university studies. The NDefs were listed by word class together with their LGDaF counterparts, so that the judges could assess the NDefs in comparison with them. The judges were given the following questions as assessment criteria:

1) Does the definition adequately describe the meaning of the word?
2) Does the definition adequately describe the usage of the word in terms of typical contexts and collocations?
3) Do the integrated examples reflect the typical use of the word?
4) Are there any words, phrases, or syntactic structures in the definitions which might be too difficult for intermediate learners?

The judges' comments and suggestions for each word were discussed with each judge individually, and led to a substantial number of changes in the NDefs. The following example shows how the original NDef version was changed according to the judges' suggestions.

> **Example 1:**
> **Original version:** Eine **Gewerkschaft** ist eine Organisation von Arbeitnehmern. Sie versucht, bessere Bedingungen von den Arbeitgebern zu bekommen, z.B. kürzere Arbeitszeiten und bessere Bezahlung.
> **Changed version:** Eine **Gewerkschaft** ist eine Organisation, die die Interessen von Arbeitnehmern gegenüber den Arbeitgebern und dem Staat vertritt. Sie kämpft z.B. für kürzere Arbeitszeiten und bessere Bezahlung.
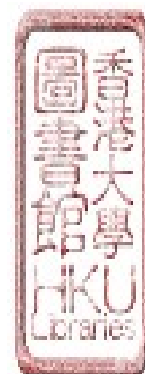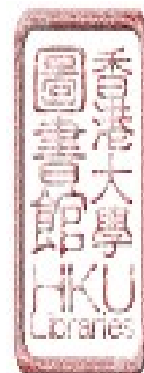
The judges criticised that the first criterion was not fulfilled. The meaning was not adequately described, since important meaning components of the noun 'Gewerkschaft' [trade union] were missing: Firstly, the mission of trade unions, 'Interessen von Arbeitnehmern vertreten' [to represent the interests of employees], and secondly, the opponents, 'gegenüber den Arbeitgebern und dem Staat' [towards employees and the government]. In the judges opinion, the meaning was also more precisely described by replacing the phrase 'zu bekommen versuchen' [to try to achieve] by the phrase 'für etwas kämpfen' [to fight for something], illustrating the sometimes militant attitude of trade unions.

It can be expected that through the input of five experienced German linguists and teachers the NDefs are linguistically sound.

However, if the NDefs were to undergo a critical review by lexicographers, they would certainly draw a number of criticisms. Firstly they would, in the same way as COBUILD, be criticised for verbosity and repetitiveness (cf. 2.5.3.4; Hausmann & Gorbahn 1989: 47/8). Certainly, the full-sentence definitions are repetitive, because the same structures appear again and again. Nevertheless, for the target users, i.e. intermediate learners, the constant repetition of the same structures may be reassuring and helpful. Another criticism of COBUILD definitions is that they sound clumsy (ibid.). This clumsiness is partly due to the fact that in the second part of the full-sentence definition a lot of referring back to the first part is needed, which is usually achieved by pronouns. These references caused problems in the design of the NDefs, because the three genders in German make references even more complicated. In some NDefs, it was difficult to avoid confusion by the pronouns. Equally, the attempt to keep lexis and syntax simple in the NDefs did sometimes result in a certain clumsiness of expression.

5.5. Summary

Despite the criticisms of the full-sentence definitions, it remains to be investigated what effect they have on learners. Although learners' opinions on the COBUILD definition style were sought in one study and found to be positive (Cumming et al. 1994; cf. 2.6.3.), it was never established whether learners actually benefit from this type of definition. For many reasons explained in this Chapter, the NDefs are

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expected to be easier to understand for intermediate learners. In this research, some evidence was already provided that the traditional style of the LGDaF, the lexicographic definition, poses a number of difficulties for learners (cf. 4.3.2.3.). However, this evidence, from a study with only two subjects using the LGDaF, is by no means conclusive. Therefore, in the next two studies, the effectiveness of both, the LGDaF definitions and the NDefs, will be tested with a larger sample. Two different methods will be used: In a think-aloud study, explanations are sought as to why the different definition types are effective or not (cf. Chapter 6). Quantitative evidence for the suitability of the two definition types will be obtained by an experiment (cf. Chapter 7).
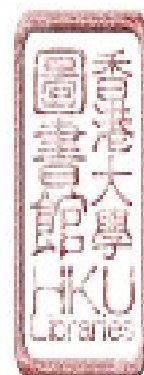
Chapter 6: The comparison between the different definition types: the main think-aloud study

6.0. Introduction

The first two investigations in this thesis were concerned with the comparison of the effectiveness of the bilingual and the monolingual dictionary for intermediate learners of German. The present study and the following experiment (cf. Chapter 7) focus on monolingual dictionary definitions and examine factors which make such definitions effective.

The main think-aloud study followed the first experiment with 46 Chinese intermediate learners of German, and the small-scale think-aloud study with 4 learners (cf. Chapter 4). In both studies the use of the bilingual English-German dictionary (LNCGD) and the monolingual German dictionary (LGDaF) and their effect on reading comprehension and incidental vocabulary learning were compared. The preliminary results can be briefly summarised as follows: The experiment demonstrated that the test results of the subjects using the bilingual dictionary were not, as hypothesized, significantly better than those of the subjects using the monolingual dictionary. The small-scale think-aloud study revealed a number of reasons why subjects failed to find or understand the meaning of words from the dictionary: For the subjects with bilingual dictionary access, the reasons were mainly strategy mistakes, while for the subjects with monolingual dictionary access the main reason was their inability to understand the language of the definitions.

Since the bilingual dictionary turned out to be not significantly more effective than the monolingual dictionary, it was argued that, at least for the learners in this research context, the use of the monolingual dictionary should be recommended (cf. 4.4.). Therefore the focus of the research was shifted to monolingual dictionary definitions and their effectiveness for intermediate learners. New definitions (NDefs) were designed for sixty-one target words. The new definitions were modelled on the COBUILD style. The defining principles of the NDefs were described in Chapter 5. It was expected that the definition style of the NDefs would be more user-friendly and easier to understand, especially for intermediate learners. The effectiveness of the

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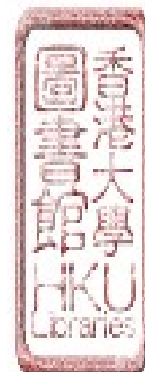
NDefs was compared with that of the LGDaF definitions in the think-aloud investigation described below. Although the research focus is on monolingual dictionary definitions, the present study also includes subjects using the bilingual dictionary, in order to triangulate this study with the previous ones.

The main hypothesis of this study was that the NDefs are more effective than the LGDaF definitions for intermediate learners. While this hypothesis will be subjected to quantitative testing with a large sample (cf. Chapter 7), the present study looked for more than quantitative evidence. It aimed to find out which specific problems learners experience, and which features facilitate or impede the understanding of definitions. It was expected that the findings would lead to more specific hypotheses concerning the effectiveness of definition features. These hypotheses could then be tested quantitatively in the next study.

In this Chapter, the results of the main think-aloud study are reported. First, the quantitative analysis of the subjects' results in successful and unsuccessful look-up actions, vocabulary and reading comprehension tests is presented (cf. 6.1.). This is followed by a qualitative analysis of look-up actions in the two monolingual dictionary conditions, i.e. LGDaF definitions and NDefs (cf. 6.2.). For triangulation with the previous investigations, look-up actions in the bilingual dictionary were also analysed (cf. 6.3.). In the Summary (6.4.), a number of hypotheses, which arose from the main think-aloud study, are put forward to be tested in the next experiment (Chapter 7). The methodology for this study was explained in 3.2.1.

6.1. Quantitative analysis

The quantitative analysis provides answers for the following research questions (cf. 3.2.1.1.):

> 1. Do subjects using the NDefs understand the meaning of more unknown words than those using the LGDaF or the bilingual dictionary?

> 3. Do subjects who use the NDefs learn more words incidentally than those who use the LGDaF or the bilingual dictionary?

> 4. Do subjects who use the NDefs comprehend the texts better than those who use the LGDaF or the bilingual dictionary?

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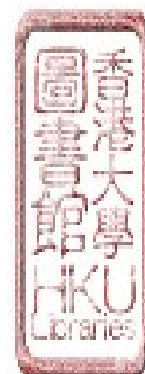
The written transcripts of the think-aloud sessions and the tests were first analysed quantitatively by two investigators for the following information:

1. Number of previously unknown words looked up and clearly understood in the relevant context.
2. Number of words known in the vocabulary tests;
3. Number of text units recalled.

6.1.1. Number of words successfully and unsuccessfully looked up

The number of words, which were successfully or not successfully looked up, were compared by dictionary type. It was explained in detail in 3.2.1.5.1., how the two judges determined whether a word was understood or not.

In Table 6.2., only the words which were clearly understood or not understood, are listed. The success rate is presented in percentages. For each subject the percentage of words looked up successfully and unsuccessfully was calculated from the total amount of words he/she looked up. The results of Tables 6.1., 6.2., and 6.3. will be discussed in 6.1.4.

Table 6.1.: Number and means of the percentage of words successfully/unsuccessfully looked up according to dictionary condition:

Dictionary condition	Total no. of look-ups	Understood	Mean	SD	not understood	Mean	SD
NDef	n = 133	(78 words)	57.87%	(15.52)	(37 words)	27.17%	(13.59)
LGDaF	n = 124	(50 words)	40.27%	(22.6)	(67 words)	54.98%	(20.84)
Biling.dict.	n = 127	(62 words)	48.48%	(12.84)	(49 words)	39%	(12.43)

6.1.2. Vocabulary tests

Since the vocabulary tests served to measure the effectiveness of the different dictionaries, only those words were counted as learned in the vocabulary tests, which were indeed looked up in the dictionary. If subjects learned word meanings by guessing them from the context, those words were not considered in the results. Table 6.2. shows results of the vocabulary tests:

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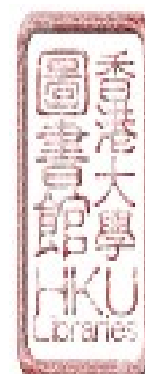
Table 6.2.: Means and standard deviations of vocabulary scores in supply-definition (SDef) and select-definition (MC) tests according to dictionary condition

Dictionary condition		SDef test		MC test	
	n	Mean	SD	Mean	SD
NDef	6	3.83	(2.13)	9	(5.05)
LGDaF	6	4.16	(4.83)	8	(4.47)
BL	5	5.4	(3.13)	8.6	(1.14)

23 points possible

6.1.3. Reading comprehension

Table 6.3. shows the results of the immediate recall protocols for the two texts (RC1 and RC2) in percentages:

Table 6.3.: Means and standard deviations of reading comprehension scores in percentages according to dictionary condition

Dictionary condition		RC1		RC2	
	n	Mean	SD	Mean	SD
NDef	6	14.41%	(6.74)	34.75%	(9.8)
LGDaF	6	23.39%	(7.82)	36.66%	(13.2)
Biling.dict.	5	27.3%	(12.41)	38.85	(4.78)

6.1.4. Discussion

Table 6.1. shows that the subjects using the new definitions (NDefs) had by far the highest success rate in understanding the words they looked up, while the subjects using the LGDaF had the lowest success rate. Accordingly, the percentage of words which were looked up but not understood was the lowest for the NDef group and the highest for the LGDaF group. The figures for the bilingual dictionary users lie almost exactly in the middle between the two monolingual dictionaries. This finding gives a preliminary answer to the first research question: In the small sample for this study, the users of the NDefs did understand the meaning of more unknown words than the users of the LGDaF definitions and the bilingual dictionary. However, the sample size of five or six subjects per group is too small to prove statistically that the differences are significant. Therefore, the hypothesis that the NDefs are more effective for

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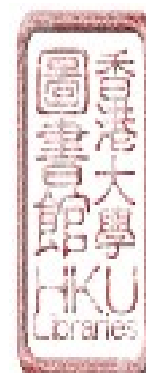
intermediate learners will be subjected to a test with a larger sample in the next experiment, reported in Chapter 7.

The scores for the vocabulary tests and reading comprehension tests are relatively low, but coherent with other studies (for instance Knight 1994). An explanation for this phenomenon was offered in Chapter 4.2.3.1. However, the overall tests result in this study are higher than in the first experimental study. This can be explained by the fact that thirteen subjects came from a German class which was above average in their achievements (cf. 3.2.1.3., Table 3.5.), and the fact that the subjects wrote their tests individually in the presence of the researcher. This may have encouraged them to make an effort.

The results of the vocabulary and reading comprehension tests show a rather irregular pattern. In the supply-definition test the subjects using the LGDaF achieved a higher score than the NDef group. However, as indicated by the high value of the standard variation (SD = 4.83), this result was actually due to one subject (LG3), an above-average student, who achieved the unusually high score of 14 (60.86%).
In the select-definition test (MC) the NDef group scored highest, while the LGDaF group had the lowest score. In both reading comprehension tests the subjects with bilingual dictionary access achieved the highest mean score and the NDef group the lowest.

Unlike the previous experiment, in this study the test results could be correlated with the number of words the subjects actually understood from looking them up in the dictionary. However, none of the three groups achieved consistent results in all the measures and therefore it cannot be determined which group had the overall best or worst results. There is also much variability for individual subjects: ND1, for instance, looked up a relatively high percentage of words successfully, had the highest scores of his group in the vocabulary tests, but scored low on the reading comprehension tests. LG6, on the other hand, looked up the smallest number of words in her group successfully, received lower scores in the vocabulary tests, but achieved the highest overall result of her group in the reading tests. This variability is illustrated in Table 6.4.

Table 6.4: Variability in test results of individual subjects

Subject	Successful look-ups	SDef %	MC %	RC1	RC2
ND1	59.25%	21.73%	60.86%	7.69%	37.14%
LG6	16.66%	8.69%	17.39%	34,61%	45,71%

In all three groups, the figures of successful look-ups did not frequently correspond to the test results. This suggests that vocabulary and reading comprehension tests may not be reliable measures of dictionary effectiveness. A correlation test was carried out across the three dictionary conditions (n = 17). Unlike the previous comparison between the small groups, a statistical analysis could be carried out for the comparison between the results of the whole sample of 17 subjects. The Pearson Correlation Coefficient showed a significant correlation only between successful look-ups and the MC test scores (p = .003). There was neither a significant correlation between look-ups and SDef scores, nor between look-ups and the reading comprehension scores. This means that the results did not provide answers to research questions 3 and 4. More importantly, the methodology of the previous experiment has to be called into question, as only the MC test scores seem to be capable of measuring dictionary effectiveness. Obviously, factors other than the dictionary, for instance memory and the ability to guess word meanings from the context influence vocabulary and reading comprehension test results. The argument that the test method for reading comprehension is no reliable indicator of the usefulness of the different dictionary types was already discussed in 4.2.3.2.

Partly because of these findings, the testing method for the next experiment (cf. Chapter 7) was changed, as discussed in 3.2.2.2.2. and 3.2.2.2.3.

6.2. Qualitative analysis: monolingual dictionary conditions

The following research questions were addressed (cf. 3.2.1.1.):

2.1.   Which features make monolingual dictionary definitions effective for intermediate learners?
2.2.   Which features make monolingual dictionary definitions ineffective for intermediate learners?

The qualitative analysis focused on the process and results of the subjects' look-up actions, as recorded in the TAPs. The method of analysis was explained in 3.2.1.5.2.
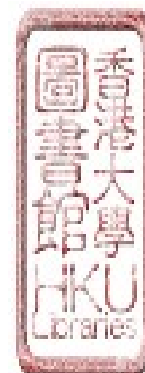
As expected, a close comparison could only be made between the two monolingual dictionary types. As became obvious in the small-scale think-aloud study, the reasons for success and failure are quite different for the bilingual dictionary users (cf. 4.3.3.). Therefore, the first part of the qualitative analysis deals only with the two monolingual dictionary types.

Of the sixty-one target words, only those thirty-nine words were included in the qualitative analysis which were looked up by at least one subject in either dictionary condition and by at least two subjects in any one of the three conditions. It was explained in 3.5.1.5.2., how categories of effective and ineffective dictionary features were developed. The words belonging to the different categories are presented below in tables. The underlined words are the target words, after which the definitions follow. If a word has different senses, the number of the relevant sense is given in bold print. As this study is concerned with the effectiveness of definitions, other information categories, for instance grammatical information or examples, are not presented below, unless a subject understood the meaning of words explicitly through them. The subjects who looked up the word are listed with either of the following symbols:

    +   i.e. the word was understood by the subject;
    -   i.e. the word was not understood;
    ?   i.e. it could not be determined whether the subject understood the word.

In order to make the comparison between the two dictionary conditions more transparent, the percentage of successful look-ups is given in brackets, followed by the total number of subjects who looked up the word, presented in a black circle.

Whenever possible, excerpts from the TAPs are used to illustrate the categories. However, often the TAPs reveal that a subject understood or did not understand the meaning of a word, but not which feature in the definition helped or prevented understanding. In such cases excerpts are not presented.

6.2.1. Categories for successful look-ups

Although the quantitative analysis showed that a larger number of words were looked up successfully with the NDefs, there are clearly cases in which the LGDaF users
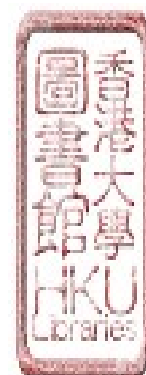
achieved a higher percentage of successful look-ups, especially in the following two categories.

6.2.1.1. Category 1: Substitution of equivalent

In this category, the definition contains an equivalent or near-equivalent which is familiar to the learners and can be substituted for the target word. The equivalent or near-equivalent is either a word or a short paraphrase, and is part of the definition sentence. Near-equivalents[42] do not convey the full meaning of the word, but offer sufficient information for the word to be understood in the reading context.

Once an equivalent or near-equivalent was identified by the subjects, the rest of the definition was usually ignored. This turned out to be beneficial, when the definitions were linguistically difficult, as in the following example:

> Example 1: LGDaF: **abbrechen** *Vt (hat)* 2 *etw. a.* etw. (plötzlich) beenden, bevor das gewünschte Ziel erreicht ist

The near-equivalent 'beenden' provided the subjects with the meaning of the word. The second part, a subordinate clause containing potentially difficult structures ('das gewünschte Ziel', 'erreicht ist') , was in one case not even read:

> **Excerpt from TAP/LG4:**
> LG4: "abbrechen", ehm [4], aha [1], "*beenden*"[43].It said that, ehm, some of the customers like the Otto-Versand want to, to end, ehm [1], the [1], eh, (trading) relationship with the firm.

The short time the subject spent reading the entry (4 + 1 seconds) indicates that she did not pay further attention to the second part of the definition, once she had found the equivalent. The second subject, LG2, who looked up this verb successfully, also identified the equivalent which she translated with "to end something".

Table 6.5. shows the words in order of frequency of look-ups. After the target words the definitions are presented. Unlike the original definitions, the equivalents are underlined in the Table.

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[42] Near-equivalents are marked in Table 6.6. with the symbol **(NE)** after the definitions.
[43] As explained in the Transcription scheme (cf. 3.1.3.5.1.), words emphasised by the subjects were underlined.
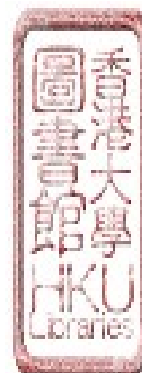
Table 6.5: Definition contains equivalent

NDefs	LGDaF
1. <u>fluchtartig</u>: Wenn man **fluchtartig** z.B. das Zimmer verlässt, geht man wegen einer unangenehmen Situation <u>sehr schnell</u> weg ND2, ND6: + ND4, ND5: - ND1: ? (40%)❺	1. <u>fluchtartig</u>: <u>sehr schnell</u>, *bes* um aus e-r unangenehmen Situation zu kommen LG1, LG2, LG3,LG4,LG5: + LG6: ? (83%)❻
2. <u>Aufklärung</u>: **2 Aufklärung** sind <u>Informationen</u> über Probleme oder unklare Situationen **(NE)** ND3,ND4,ND5: + ND1, ND2: - (60%)❺	2. <u>Aufklärung</u>: **2** <u>Informationen</u> über bestimmte Probleme od. Situationen **(NE)** LG2, LG3, LG4, LG5, LG6: + (100%)❺
3. <u>schuften</u>: Wenn man **schuftet**, <u>arbeitet</u> man <u>sehr schwer</u> ND1, ND2: + ND5, ND6: - (50%)❹	3. <u>schuften</u>: <u>schwer arbeiten</u> ≈ ackern LG1, LG2, LG3, LG5 : + (100%)❹
4. <u>Riegel</u>: **2 Ein Riegel** von etwas, z.B. Schokolade, ist ein <u>langes, schmales Stück</u> ("Schokolade" only given as example) ND5: + ND2, ND3: - ND1, ND6: ? (20%)❺	4. <u>Riegel</u>: **2** <u>ein langes, schmales Stück</u> Schokolade *o.ä.* LG1, LG3: + LG 5: - LG2: ? (40%)❹
5. <u>Rätsel</u>: **1 Ein Rätsel** ist eine <u>komplizierte Frage oder Aufgabe</u>. Man muss lange nachdenken, um die Antwort oder Lösung zu finden **(NE)** ND1, ND2, ND6: + (100%)❸	5. <u>Rätsel</u>: **1** e-e Art <u>komplizierte Frage</u>, bei der man raten od. lange nachdenken muss, um die Antwort zu finden **(NE)** LG1,LG2, LG3: + LG4: - (75%)❹
6. <u>lostreten</u>: **2** Wenn man etwas, z.B. eine Aktion oder Kampagne, **lostritt**, <u>beginnt</u> oder <u>startet</u> man sie ND1,ND2,ND3,ND6: + (100%)❹	6. <u>lostreten</u>: etw. durch Treten von etw. lösen od. <u>in Bewegung setzen</u> LG2, LG3, LG 4: - (0%)❸
7. <u>abbrechen</u>: **2** Wenn man etwas, z.B. sein Studium, **abbricht**, <u>beendet</u> man es plötzlich oder <u>hört</u> damit <u>auf</u>, bevor es fertig ist **(NE)** ND5: + ND6: - (50%)❷	7. <u>abbrechen</u>: **2** etw. (plötzlich) <u>beenden</u>, *bevor das gewünschte Ziel erreicht ist* **(NE)** LG2, LG4: + LG5: - (66,7%)❸
8. <u>ankündigen</u> = **1** Wenn man etwas, z.B. eine Veranstaltung, **ankündigt**, <u>informiert</u> man andere Personen darüber, dass es bald kommen oder passieren wird **(NE)** ND1, ND2, ND3: + (100%)❸	8. <u>ankündigen</u> = ein bevorstehendes Ereignis (öffentlich) <u>bekanntgeben</u> LG3: + (mitteilen)* * In this case, the subject chose a suitable equivalent from an unsuitable sense of the verb
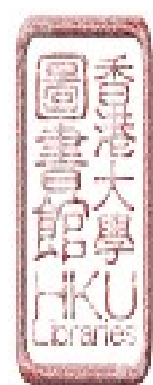
The effectiveness of equivalents in definitions is best illustrated by the results for the verb 'lostreten' (6). The NDef, which contains an equivalent, 'beginnt', was used successfully, while none of the LGDaF users understood the corresponding definition, because they could not detect the equivalent. The second phrase of the LGDaF definition 'in Bewegung setzen' actually is an equivalent to the unknown word, but the words were unfamiliar to the subjects. Also, only the concrete meaning of the verb is provided in the LGDaF. Even though this concrete meaning could be applied to the reading context, and the figurative use could be derived, this transfer is prevented by the unknown words. As the NDef provides the figurative meaning as well (cf. 5.3.), and offers two equivalents for the target word, 'beginnt', 'startet', it is not surprising that all NDef users understood the meaning of 'lostreten' while none of the LGDaF users did. The TAP of ND2 demonstrates how she substituted the two equivalents for the target word:

Excerpt from TAP/ND2:
ND2: *Actually, maybe, maybe this word mean that, ehm, ehm, something like, eh, 'beginnen' or 'starten'.*

The other three subjects who looked up 'lostreten' successfully, also picked out the equivalents 'beginnen' (ND1) or 'starten' (ND3, ND6: "to start").

The NDef for the verb 'ankündigen' (8) contains a cognate of English, 'informiert', as the equivalent. Cognates of English in definitions are usually helpful for learners (cf. 5.2.1.). By contrast, the LGDaF definition uses 'bekanntgeben' as equivalent, a verb which is not part of the Basic Word List. As a result, the NDef users understood the definition, while the LGDaF user eventually chose a familiar equivalent from an unrelated meaning.

However, the definitions of the two verbs (6 and 8) were the only ones in this Category that were looked up considerably more successfully by the NDef users, due to the fact that the equivalents in the respective LGDaF definitions were unknown to the learners. Table 6.5. shows that in five of seven cases, where the LGDaF definition contained an equivalent (words: 1, 2, 3, 4, 7), the subjects using the LGDaF were more successful. It seems to be easier to identify the equivalent in the structure of the lexicographic definition than in the if-clause of the full-sentence definition. In the definitions of the words 'fluchtartig' (1), 'Aufklärung (2), 'schuften' (3), 'Riegel' (4), and 'abbrechen' (7), the equivalents appear in initial position in the LGDaF definitions, and
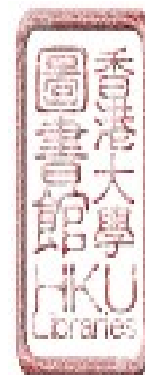
therefore are more easily located. More importantly, as the equivalents are not presented in inflected forms in the LGDaF, but like the headword in their citation form, they seem to be easier to substitute for the target word. In the NDefs, as parts of the the full-sentence structure, equivalents usually appear in inflected forms. This may create additional problems, especially in the case of verbs, as many inflected forms are irregular or separated forms of separable verbs, as in the definition of 'abbrechen':

> **Example 2: NDef:** Wenn man etwas, z.B. sein Studium, **abbricht**, beendet man es plötzlich oder hört damit auf, bevor es fertig ist

The second equivalent, 'hört...auf' appears in two separate parts. Equally, in the definition for 'schuften', the equivalent 'schwer arbeiten' appears, according to the German syntactic rules, separate from each other, with the adverb 'schwer' at the end of the sentence. The following excerpts show how the NDef subject failed to identify the first part of the equivalent:

> **NDef:** Wenn man **schuftet**, arbeitet man sehr schwer
> **Excerpt from TAP/ND5:**
> ND5: "geschuftet" [12]. Ehm, ((reads definition)). Anstrengend? 'Sehr schwer' [4].

The subject used the 'kidrule' strategy by selecting a familiar segment from the definition and substituting it for the unknown word (cf. 2.6.2.1.). She was not able to relate verb and adverb to each other, and chose just the adverb as the equivalent, despite the fact that it is the wrong part of speech. Instead of a definition sentence, the LGDaF just provides the equivalent 'schwer arbeiten'. The TAP excerpts reveal that all LGDaF users understood the meaning of 'schuften' immediately.

In many NDefs, especially in the definition of verbs, the equivalents are embedded in the main clause, which is preceded by a subordinate if-clause. Therefore, the equivalents appear much later in the definition as part of a sentence structure. The user has to extract the word from one context first before he can transfer it into the relevant context. Boogard regards this as an inherent difficulty in COBUILD's full-sentence explanations:

> "For a reader, however, this emergent 'word story' could be a negative feature, since it may have little to do with the context he is reading. The information the reader is looking for has thus to be extracted from a setting that is often more or less redundant and that is not always relevant to him." (1996: 292)
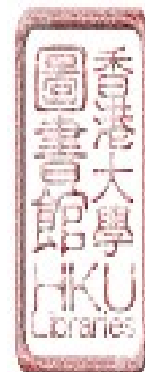
That especially learners with low verbal ability face problems with such a task can be illustrated by the following examples:

> **NDef:** Wenn man **fluchtartig** z.B. das Zimmer verlässt, geht man wegen einer unangenehmen Situation <u>sehr schnell</u> weg
> **Excerpt from TAP/ND4**
> **ND4:** "fluchtartig" [4]. Mhm, ich kann nicht die genaue englische Wort, ehm [2], daran denken, ich habe vielleicht...[2], nicht "uncomfortable'? Mhm, nein, ich weiß nicht. [Mhm, I cannot think of the exact English word, I may have.. is it 'uncomfortable'? Mhm, no, I don't know.]

ND4 was not able to understand from the sentence structure that 'sehr schnell' is the equivalent to 'fluchtartig. She also applied 'kidrule', picking out a familiar lexical item from a prepositional phrase ('..wegen einer <u>unangenehmen</u> Situation...'). Using the same strategy, ND5 extracted the wrong part of speech 'to leave' ('...z.B. das Zimmer <u>verlässt</u>...') as an equivalent from the definition sentence:

> **Excerpt from TAP/ND5**
> **ND5:** "fluchtartig"[8] ((reads definition)) [10] Is it mean 'to leave'?

In the LGDaF definition, the equivalent 'sehr schnell' is in initial position and was picked up immediately by five of the six subjects who looked the word up.

The last three examples of low verbal ability NDef users show two phenomena:
1) The use of 'kidrule' indicates that learners are expecting and looking for equivalents in dictionary definitions. If they do not find one or fail to identify the right one, they use any familiar expression as an equivalent.
2) In choosing equivalents, the subjects pay little attention to the correct part of speech. This phenomenon is not entirely due to the lower proficiency of the subjects, as occasionally also high verbal ability students made this kind of mistake. It is presumably partly due to the subjects' mother tongue. In Chinese, different word classes are not distinguished by different forms. Using the wrong part of speech is a mistake which is commonly found in Hong Kong Chinese learners' written assignments in German. It can also be frequently observed that Hong Kong Chinese speakers mix up different parts of speech in their L2, English.

The results in this category indicate that if a word can be defined with the help of an equivalent or near-equivalent, it is more useful to present it in initial position and in citation form. Embedding the equivalent in a full-sentence structure makes it harder for learners to identify it.

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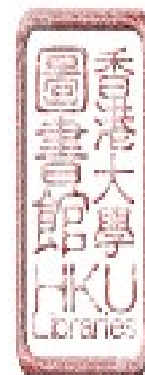
6.2.1.2. Category 2: Substitution of synonym

In this category, the definition is followed by a synonym[44] for the target word. Unlike the equivalents, which are part of the definitions, the synonyms are introduced with the symbol ≈ and presented after the definition. The availability of synonyms allow the use of the same strategy as in Category 1, as the target word can be substituted with it.

The synonyms are underlined in Table 6.6., unlike in the original entries.

Table 6.6: Definition is followed by a synonym

NDefs	LGDaF
1. geschehen: 1 Wenn etwas, z.B. ein Unglück, **geschieht**, passiert es ≈ etwas ereignet sich (synonym integrated) ND2, ND3, ND6: +　　　　　(100%)❸	1. geschehen 1 etw. ist in e-r bestimmten Situation da (u. führt somit bes e-e Veränderung herbei) ≈ etw. ereignet sich, passiert LG1, LG2: +　　　　　(100%)❷
2. feststellen: 2 Wenn man an einer Person oder Sache etwas **feststellt**, bemerkt man etwas (synonym integrated) ND1, ND6: -　　　　　(0%)❷	2. feststellen 2 ≈ etw. bemerken, erkennen LG2: +　　　　　(100%)❶
3. freilich: 1 Man benutzt **freilich**, wenn man etwas selbstverständlich findet = allerdings, natürlich ND2, ND5: ?　　　　　(0%) ❷	3. freilich: ≈ 1 verwendet, um etw. einzuräumen od. als selbstverständlich zu charakterisieren ≈ allerdings, natürlich LG2: +　　　　　(100%)❶
4. zunehmend Man benutzt **zunehmend**, wenn etwas häufiger oder intensiver wird oder geschieht = immer mehr ND6: -　　　　　(0%)❶	4. zunehmend ≈ immer mehr LG2, LG4: +　　　　　(100%)❷

Although the numbers of subjects who looked up the words in this category are small, they give some evidence that the availability of synonyms is helpful for learners. In both Categories 1 and 2, when either an equivalent or a synonym is available to substitute the target word, the users of the LGDaF were more successful than the users of the NDefs.

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[44] The lexical items which are called 'synonyms' by lexicographers, are in fact 'near-synonyms', as they do not satisfy the conditions of absolute synonymy as described in linguistic semantics (cf. Lyons 1995: 60-61)
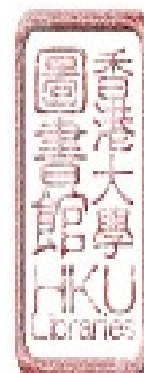
The results for 'feststellen' (2), suggest that it is more helpful if the synonym is given as an isolated item marked with the symbol ≈, as in the LGDaF, than if it is embedded as an equivalent in the definition sentence, as in the NDef. This supports the argument made in 6.5.1.1., that it is more difficult to identify equivalents from the NDef structure. The following examples show that, unlike the NDef user, the subject using the LGDaF definition has no problems finding the meaning:

Excerpt from TAP/LG2:
LG2: "feststellen" [5], ((reads 1st and 2nd sense)) bemerk-, erkennen, ja.

Excerpt from TAP/ND6:
ND6: "festgestellt" [9]
R: Do you understand this, 'festgestellt'?
ND6: Eh, ja.
R: What does it mean?
ND6: Ehm [5], eh, eh, it's like, eh [2], it was being corrected. It was being fixed.

ND6 could not locate the synonym 'bemerkt', although she is likely to know this verb which belongs to the Basic Word List.

In the same way, the LGDaF entry for 'zunehmend' (4), offers no definition, but just the synonym. This seems to facilitate successful look-ups more than the NDef entry, where the synonym follows a definition sentence, as can be seen in the following excerpts:

Excerpt from TAP/ND6:
ND6: "zunehmend" ((reads whole entry)) [4]
R: Do you understand that?
ND6: Eh [3], eh [2], ja. Ehm [2], eh [3] ((reads example)) [6], ((reads whole entry again)) [12]. Mhm, I skip this one, I don't understand this word.

Although ND6 spent considerable time reading the entry twice, she missed the synonym. Without the distracting definition text, the two LGDaF users understood the meaning immediately, as the example of LG4 shows:

Excerpt from TAP/LG4:
LG4: And I'm now looking at the word "zu-nehmen-den" [5], zu-nehmen [3]. Ja, ehm, the meaning is, ehm [2], the meaning is, ehm, in- increasing number. Ehm, the meaning is quite clear, as the explanation is very easy: "immer mehr".

The examples indicate that additional definition text impedes rather than facilitates the understanding of word meanings, if a synonym for the target word is available. If

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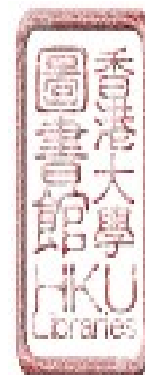
there is a synonym, a definition may be redundant, as it can impose extra difficulties and distract from the relevant information.

The examples in Table 6.7. support the assumption that a difficult definition text can prevent learners from locating the relevant information. In these cases, the LGDaF users were less successful despite the fact that there are familiar equivalents or synonyms in the definitions.

Table 6.7: LGDaF definition text interferes with understanding

NDefs	LGDaF
1. <u>nüchtern</u>: Wenn man **nüchtern** ist, hat man kein Frühstück gegessen und <u>hat</u> einen <u>leeren Magen</u> ND1, ND2, ND3, ND4, ND5, ND6: + (100%)❻	1. <u>nüchtern</u>: so, dass sie betroffene Person kein Frühstück gegessen hat u. der <u>Magen leer ist</u> LG2, LG3, LG4, LG5: + LG6: - (80%)❺
2. <u>Eiweiß</u>: **2 Eiweiß** ist eine Substanz, die man besonders in Fleisch, Eiern und Milch findet. Man braucht Eiweiß, um zu wachsen und gesund zu bleiben ≈ <u>Protein</u> ND2, ND3: + (100%)❷	2. <u>Eiweiß</u>: **2** e-e chemische Verbindung, deren relativ große Moleküle aus Kohlenstoff, Wasserstoff, Stickstoff u. Sauerstoff bestehen ≈ <u>Protein</u> L6: + LG2, LG4: - (33%)❸
3. <u>Kur</u>: **1** Eine **Kur** ist eine <u>medizinische Behandlung</u>, um die Gesundheit zu verbessern. Während der Kur, die meistens mehrere Wochen dauert, wird der Patient von Ärzten behandelt, macht oft eine Diät und treibt Sport ND1, ND3, ND4: + (100%)❸	3. <u>Kur</u>: **1** e-e <u>(Heil)Behandlung</u> über e-e Zeit von einigen Wochen, die der Regenerierung der Gesundheit allgemein dient LG1: - (0%)❶

The text of all three LGDaF definitions is linguistically more difficult than the NDef texts. The definitions of the first word contain a short paraphrase which is an equivalent for the target word (hat.. leeren Magen/ Magen leer ist); for the second word a synonym (Protein) is offered after the definitions. Nevertheless, the LGDaF definitions contain unknown vocabulary and are syntactically more complex than the NDefs.

The following example shows how an unknown vocabulary item prevented the subject from identifying the equivalent:

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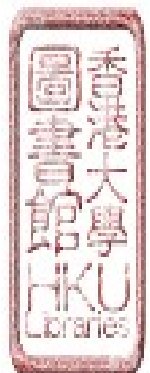
> **Excerpt from TAP/LG6**
> **LG6:** *"Nüchtern Magen..."*, [6] nüchtern, ehm [6]. *"...betroffene Person..."*, I don't know what means by 'be-, be, betroffene Person'. [1] Ok. That means no [1] reference."

However, the other four LGDaF users who looked up 'nüchtern' were not deterred by the unknown word.

The synonym for the second word, 'Protein', is preceded by an encyclopedic definition explaining its chemical composition. Seven of the eleven content words in this definition are unknown to intermediate learners. The TAPs show that two out of three LGDaF subjects were deterred from reading to the end and arriving at the synonym: LG2 gave up half way through the definition, LG4 used the 'kidrule' strategy:

> **Excerpt from TAP/LG4**
> **LG4:** [16] Mhm, the meaning of Ei-weiß is the *"chemische Verbindung"*, I think it is, ehm, the 'chemical link'.

In the above cases, the equivalent and synonym were preceded by definition text which offered linguistic problems. The hypothesis that learners' access to the relevant information is blocked through these linguistic problems corresponds to one of Kostrzewa's observations: his subjects stated that their understanding was severely blocked if there were lexical or syntactic problems at the beginning of a word explanation (1991: 106/7).

The following example indicates that understanding can also be prevented when complicated definition text follows the equivalent. For the word 'Kur', the words 'medizinische Behandlung', '(Heil)Behandlung' are near-equivalents, which explain part of the meaning of the target word. In the easier context of the NDef, all three NDef subjects who looked up the word understood at least this partial meaning, which was sufficient for the reading context:

> **Excerpt from TAP/ND3**
> **ND3:** "Crash-Kuren" [2] ((reads meaning)) [2] That means... [9] ((reads meaning again)) [8] 'a therapy', something like therapy.

In the LGDaF definition, at least two of eight content words are unknown to learners at this level, and the syntax is more complex than in the NDef. The following excerpt

shows how the subject, reading the definition aloud, stumbles over one infrequent defining word, 'Regenerierung':

Excerpt from TAP/LG1
LG1: "Crash-Kuren" [11] *"..Behandlung über eine Zeit von einigen Wochen, die der Re-, Re- ((laughter)) Re-generierung der Gesundheit allgemein dient"* [2]
R: Verstehen Sie das?
LG1: Mhm [5].
R: Verstehen Sie, was das bedeutet?
LG1: Not quite. I, I think I have to look at, eh, eh, have to look at the Beispiele. ((reads examples)) [8] Mhm, I can't, eh [4], no. Maybe I'll try, eh, to understand it from the context.

Generally, it is helpful for intermediate learners if the definition contains an equivalent or a synonym. As could be seen in the excerpts in Categories 1 and 2, the learners search for short phrases or words which can be substituted for the target word. If the definition is difficult, and an equivalent cannot be identified, often another familiar segment will be chosen instead. Either the real equivalent or synonym, or the 'kidrule'-segment is then usually translated into English. This behaviour was also observed by Müllich (1990: 179 - 180), who reports that his subjects tended to translate the substitutes into their L1, thus treating the monolingual dictionary like a bilingual. In general, learners' keenness to find a translation equivalent seems to indicate that they only feel that they have understood a word completely if they can name an equivalent in their own language, or in the case of the Hong Kong Chinese students, in English (cf. 4.1.4.).

The following hypothesis concerning the structure of definitions was derived from Categories 1 and 2: Equivalents and synonyms in definitions are helpful for learners. They are most helpful if they are not embedded in a full-sentence structure.

The results of Category 2 also indicate that if the surrounding text is linguistically too difficult, the effectiveness of equivalents and synonyms is lost. However, it has to be noticed that the numbers of subjects who looked up the words in Category 2 are very small. In several cases, the argument is based on the look-up action of only one subject (cf. Table 6.6.: 'feststellen', 'freilich', 'zunehmend'). Their failure to understand the word meanings might be due to individual factors, and therefore there is at present rather weak evidence for the hypothesis that synonyms are more helpful if they are not part of a full-sentence structure. It will be tested with a larger sample in the second experiment (cf. Chapter 7). The evidence for the second assumption, that

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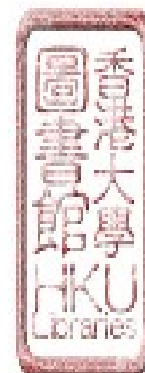
the effect of equivalents and synonyms is lost through a linguistically difficult environment, is even weaker, depending in two out of three cases on only one subject (cf. Table 6.7.: 'nüchtern', 'Kur'). Therefore no hypothesis is put forward.

6.2.1.3. Category 3: The "imageable" concept

There is some evidence in the data that a rich definition context leads to better understanding. The factor that the definitions in this category have in common is that they contain examples or phrases which makes the concept of the words "imageable" (Ellis & Beaton 1995: 114). In 2.1.3. and 5.2.2.2.2., the psycholinguistic background of the "imageable" concept, i.e. the imageability and the context availibility hypotheses, were discussed. To create an "imageable" or rich definition context through the integration of additional information, i.e. redundancies and examples, was an important principle in the design of the NDefs.

A common feature in the TAPs for this Category was that the subjects either mentioned a redundancy or an example as helpful, or found the meaning of the target word immediately after having read the redundancy or the example. In some cases when the target sense of a word was abstract or figurative, the subjects seemed to access the abstract or figurative concept through the more imageable concept of the direct sense.

Whenever the LGDaF entries contained phrases which make the word concept imageable, the LGDaF users were almost equally as successful as the NDef users. It was found that not only redundancies and examples, but also linguistically simple phrases and paraphrases in the definitions of the direct senses of words helped to access the non-direct or figurative meanings. These cases are shown in Table 6.8.

The three verbs in Table 6.8. are polysemous, and the target meaning of each verb is a figurative one. In the dictionary entries, these target meanings are, apart from the verb 'verlegen' (3), preceded by a direct meaning. In some cases, the definitions of the direct meanings of 'auflösen' (1) and 'umstellen' (2) provided the mental images and helped to access the figurative meanings.

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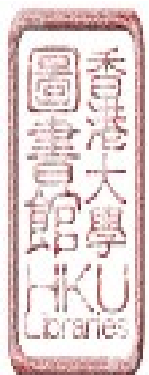
The target meanings are marked with the symbol *. From the dictionary entries, only those senses and examples are presented which contributed to the understanding of the word. All definitions of the target meanings also contained an equivalent for the target word. The equivalents are again underlined. However, unlike Category 1, the definitions were not understood entirely through the equivalents.

Table 6.8.: Rich definition context in NDefs and LGDaF definitions

NDef	LGDaF
1. auflösen: 1 Wenn man z.B. ein Stück Zucker in Kaffee **auflöst**, verliert es seine feste Form und verteilt sich im Kaffee 2 Wenn z.B. die Polizei eine Demonstration **auflöst**, beendet sie die Demonstration 3* Wenn eine Organisation, z.B. eine Firma **aufgelöst** wird, hört sie auf zu existieren 7 Wenn **sich** etwas, z.B. Salz in Wasser **auflöst**, verteilt es sich und man kann es nicht mehr sehen ND2, ND3, ND4, ND6: + (100%)❶	1. auflösen: 1 etw. in e-r Flüssigkeit vollständig zergehen lassen <Zucker in Kaffee..> 2 e-e Veranstaltung *mst* mit autoritären Mitteln beenden: *Die Polizei löste die Demonstration auf* 3* die Existenz e-r Organisation (vorübergehend) beenden LG1, LG2, LG3: + (100%)❸
2. Umstellung: **umstellen** 1 Wenn man etwas, z.B. Möbel, **umstellt**, stellt man es an einen anderen Platz 3* Wenn man eine Person oder Sache **auf** etwas **umstellt**, z.B. ein Baby auf festes Essen, dann ändert man die frühere Gewohnheit oder Situation ND1, ND3, ND5: + (100%)❸	2. Umstellung: **umstellen** 1 etw. von einem Platz an e-n anderen stellen: *Möbel u.* 3* etw. (für j-n) (in bestimmter Hinsicht) ändern: *ein Baby von Muttermilch auf feste Nahrung u.* LG1, LG3: + LG2: - (66,7%)❸
3. verlegen: 1 Wenn z.B. eine Firma oder eine Institution ihren Sitz oder Standort **verlegt**, zieht sie an einen anderen Ort um ND1, ND2: + (100%)❷	3. verlegen: 1* den Standort von etw. wechseln: *seinen Wohnsitz in e-e andere Stadt v.* 2 j-n (*bes* e-n Kranken) an e-n anderen Ort bringen LG2, LG4: + (100%)❷

The different senses of the verb 'auflösen' (1) offer several examples, and, as the examples below show, different subjects accessed the target meaning through different images.

ND3 understood the concept of the word (to dissolve) immediately, reading only the first sense with the example '...z.B. ein Stück Zucker in Kaffee **auflöst**...' [..for instance dissolve sugar in coffee..] and then transferring this concept to the reading context:

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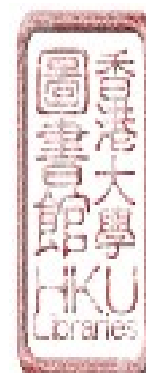
Excerpt from TAP/ND3

ND3: Was ist "aufgelöst"? [2] auflösen, auflösen ((reads sense 1)) Mhm, ach so, it is 'dissolved'. Mhm [1]. So this business is, Eden-Gruppe is dissolved.

The direct meaning of the verb is demonstrated by the example of dissolving a lump of sugar in coffee. This action can be imagined, and obviously that image helped to understand the figurative meaning of dissolving a company.

ND2 and ND4 understood 'auflösen' from the second sense, which contains the equivalent "beenden" and the example 'Die Polizei löste die Demonstration auf' [the police dispersed the demonstration], as the following excerpt shows:

Excerpt from TAP/ND2

ND2: "aufgelöst" –lösen [3] ((reads entry)) [21]
R: Try to think aloud, even when you are reading. Is there a problem?
ND2: Ja. auflösen, auflösen [3].
R: What do you not understand?
ND2: Mhm. I think this sent-, ehm, the word here, 'auf-aufgelöst', or should I say 'auflösen', that means, ehm [4], ehm, the company has ended, has ended the business in, in Thailand.
R: Where did you find this?
ND2: Ehm, I think that, I think, I have actually checked the first, the second, the third meaning of, of this word. I think, I think the second meaning, eh, *"...die Polizei eine Demonstration auflöst, beendet sie die Demonstration.."*, I think, I think this meaning can be, can suit this, can suit here [3].

Again, the example describes an action which can be imagined. It seems that both subjects understood the meaning from a combination of the equivalent 'beenden' and the mental image evoked by the example. ND2 read the first three senses of the entry. There are two obvious reasons, why the second meaning facilitated her understanding, although the third one is the target meaning. Firstly, the equivalent 'beenden' was helpful, as ND2's translation "..has ended the business.." demonstrates. The same applies to ND4 who clearly emphasised this verb when reading the definition aloud. Secondly, the image of the police dispersing a demonstration, thus ending something, fits into the reading context. There the police are mentioned in the previous sentence as prosecuting the manager because of child labour in his company, and the group of companies was subsequently dissolved:

Excerpt from Text 1:
"..er wird von der Polizei wegen 'Verstoßes gegen das Arbeitsgesetz' gesucht. Die Eden-Gruppe ist aufgelöst, deutsche Kunden sind irritiert."

The words 'Polizei' and 'Demonstration', which are cognates of English, were certainly also helpful for the understanding.

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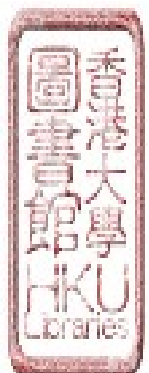
The target meaning for 'auflösen' (No. 3) is figurative, and neither the NDef nor the LGDaF definition offer an image for the action described by the verb. Only one subject, an LGDaF user (LG2), understood the word through the definition of the target meaning. The TAP of LG2 shows that the subject was first confused by the eight different senses of the verb, and then focused on the target meaning, selecting from it the equivalent 'beenden'. That the cognates of English, 'Existenz' and 'Organisation' in the definition were also helpful is demonstrated by the fact that the subject pronounced the words in English, when she read the definition aloud.

The TAP of ND6 provides an interesting example of how dictionary users may search for a suitable image. She started reading the 1st sense, but abandoned it, then read the 3rd sense completely, then read the 7th sense which provided the imageable concept through the example '…Salz in Wasser auflöst' [salt dissolves in water]. From this image she derived the right meaning for the reading context:

Excerpt from TAP/ND6
ND6: "aufgelöst" [4] aufgelöst [8] auflösen ((reads beginning of sense 1, reads sense 3 completely, then reads sense 7)), eh [1] ja.
R: What is it? What do you think?
ND6 Ehm [1], it's very, ehm, eh. 'dissolve'. But in this se-, in this sentence it means, ehm, eh, 'it, it doesn't exist'.

ND6 paid no attention to the grammatical information which shows that the 7th sense belongs to the reflexive use of the verb 'sich auflösen'. The mental image provided by this example was obviously the most helpful one for her.

Apart from ND3, who read only the 1st sense, and ND4, who read only the first two senses of the entry, all subjects scanned through the entry, reading at least three senses. It is possible that for them the different images projected by the different examples contributed to the understanding of the word meaning. With the direct meaning at the beginning, the concept of the figurative meaning might have developed gradually. This would mean that the order of senses in the entry plays an important role. For polysemous words, the concrete or direct meanings of words should be listed first, before the more abstract and figurative meanings are presented[45].

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[45] However, as mentioned in 4.3.3., this is not always the case in the LGDaF.

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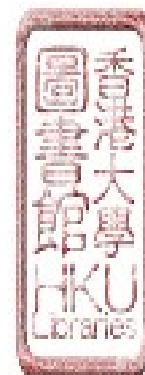
There was some evidence in the TAPs of ND2, ND3, and LG2, that cognates of English are helpful. They reduce the amount of unknown words in definitions.

The LGDaF definition for the direct meaning of the noun 'Umstellung' (2) (listed as a derivative under the verb 'umstellen') contains the linguistically simple paraphrase 'etw. von einem Platz an e-n anderen stellen ' [to put from one place to another]. This phrase offers an imageable context, from which the figurative target meaning could be derived. The two LGDaF subjects who looked the word up successfully, clearly understood the meaning through this paraphrase:

> **Excerpt from TAP/LG1**
> **LG1:** Now I have to look up, eh, "Umstellung". Ah, eh, Umstellung, umstellen, *"von einem Platz an einen anderen stellen',* ah. It's the 'change' of the eating [2] ritual, oh. I think it means the change of the eating rituals.

The subject did not even read on to the second sense which contains the equivalent 'ändern'. The paraphrase 'to put something from one place to another' led to a quick mental operation: The concept of 'change' was evoked immediately, and the verb was transformed into a noun and integrated in the reading context. The example shows that, in addition to redundancies and examples, paraphrases of the direct meanings can evoke mental images that help to access the figurative meanings.

The TAPs of LG3 and the NDef subjects do not give clear evidence which feature helped to understand the meaning of 'umstellen'.

The meaning of the verb 'verlegen' (3) was understood immediately by the subjects ND1 and LG2 after they read the definition and example of the 1st sense:

> **Excerpt from TAP/ND1**
> **ND1:** "verlegen" [3] *"Wenn zum Beispiel eine Firma ...Sitz oder Standort verlegt.. anderen Ort um... seinen Wohnsitz in eine andere Stadt verlegen.."* [2] I know the meaning, 'to move'.
> **Excerpt from TAP/LG2**
> **LG2:** "verlegen" *"den Standort von.. wechseln...seinen Wohnsitz in ..andere Stadt"* [3] *..die Produktion wird nun in andere.. verlegt...".* Oh, the..., to, eh, 'change'... [2].

It seems that the phrase "in eine andere Stadt" [to another town] evoked the image of 'change' in the same way as the paraphrase for 'umstellen' did. Both subjects emphasised the phrase when reading the definition. LG2 stopped reading after the
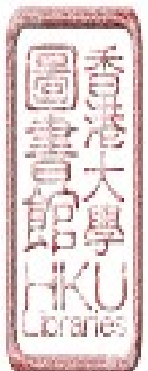
phrase, referred back to the reading context and came up with the correct meaning. However, the LGDaF definition also contains the equivalent 'wechseln' [to change]. It is not clear whether the phrase, the equivalent, or the combination of both facilitated understanding.

LG4 read the first two senses, until she found the expression, which activated a mental image, 'an einen anderen Ort' [to another place]:

Excerpt from TAP/LG4
LG4: Ehm, I'm looking up now the word "verlegen". [10] Ehm [10], that mean that some firms have an, eh, different branch in a different country or land.
R: 'verlegen' – what would be the English word?
LG4: I have to think. [3] to [1] locate. [4] I can't find (an) English word exactly, so have this meaning, because 'locate' is quite, ehm, you can use it everywhere, but I think the 'verle-verlegen' is to, ehm, something located in a different country. The meaning, eh, the explanation of 'ver-legen' give me a very clear meaning that , eh, it is about ehm, *ein anderer Ort.*

All examples and phrases that evoke mental images have in common that they are short as well as linguistically simple enough to be understood by the subjects. They neither contain unknown lexical items nor difficult syntactic structures. However, in contrast to the NDefs, using such phrases that create imageable concepts is not a defining principle for the LGDaF. Therefore lexically and syntactically difficult phrases can often be found in the LGDaF definition, where simpler phrases could have been used. Especially for words with abstract or non-literal meanings which are more difficult to understand, defining with simple phrases and examples is essential. An important principle of the NDefs was to add phrases to the definitions which could help to evoke mental images, i.e. redundancies and definitions (cf. 5.2.2.2.). The following examples show that redundancies and examples enhance the effectiveness of the definitions.

Table 6.9. presents four words with abstract or figurative meanings. All four NDefs contain examples, and two also offer a redundancy ('Unterversorgung': '...ist nicht genug davon da oder man bekommt nicht genug davon'/ 'Ritual': 'Gewohnheit, ...etwas, das Leute ganz regelmäßig tun...'). In the LGDaF, an example is only given for the second word, 'unterversorgt', and this example is not integrated into the definition, but follows after it. The LGDaF definitions pose some lexical and syntactic difficulties, which are explained in square brackets below. Therefore the LGDaF

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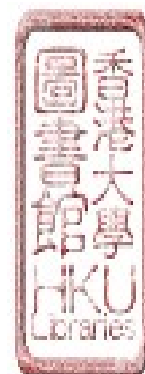
provides poor definition contexts for these words, which cannot evoke mental images. This is reflected in the different results:

Table 6.9: Poor definition context in LGDaF

NDefs	LGDaF
1. Indiz: 1 Ein **Indiz** oder **Indizien** sind die Informationen, die z.B. der Polizei zeigen, dass jemand ein Verbrechen begangen hat. Ein Indiz kann ein Gegenstand, z.B. ein Handschuh, sein, den der Verbrecher am Tatort vergessen hat ND1, ND2, ND3: + ND5: - (75%)❹	1. Indiz: 1 etw., das darauf hindeutet, dass j-d ein Verbrechen begangen hat [all three content words unknown, complex syntax] LG3, LG5, LG6: - (0%)❸
2. Unterversorgung: Wenn man **mit** etwas oder **an** etwas, z.B. mit Vitaminen, **unterversorgt** ist, ist nicht genug davon da oder man bekommt nicht genug davon ND1, ND2, ND6: + (100%)❸	2. Unterversorgung: **unterversorgt** mit etw. Wichtigem in nicht ausreichendem Maße versorgt: *Das Herz des Kranken ist mit Sauerstoff u.* [three of four content words unknown; complex syntax] LG2, LG3, LG4, LG5: - (0%)❹
3. Ritual: **3** Wenn man eine feste Gewohnheit oder etwas, das Leute ganz regelmäßig tun, ein **Ritual** nennt, meint man das humorvoll (NE) ND1, ND2: + ND5: - (66,7%)❸	3. Ritual: 1[46] e-e (*bes* religiöse) Handlung, die nach festen Regeln in e-r bestimmten Reihenfolge abläuft [five of six content words unknown] 3* *hum* ein Vorgang, der immer wieder auf die gleiche Weise ausgeführt wird [three of four content words unknown, passive voice] LG5, LG6: - (0%)❷
4. steuern: 1 Wenn man z.B. ein Auto oder ein Fahrrad **steuert**, fährt man es in eine Richtung, z.B. nach links oder geradeaus ≈ lenken 2* Wenn man etwas, z.B. ein Gespräch, **steuert**, bestimmt man, wie es sich entwickelt ND3, ND4: + (100%)❷	4. steuern: 1 bewirken, dass ein Fahrzeug sich in e-e bestimmte Richtung bewegt ≈ lenken <ein Auto, ein Flugzeug, ein Schiff s.> [two content words unknown] 2* bestimmen, wie sich etw. entwickelt od. wie es verläuft [one content word unknown] LG1, LG3: - (0%)❷

*target meaning

The following excerpt demonstrates that a rich definition context of an abstract word makes the concept imageable. It is also one of the rare cases when a subject explicitly mentioned which feature in the definition she experienced as helpful.

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[46] Both subjects only looked up the first meaning. The third meaning was appropriate for the reading context.
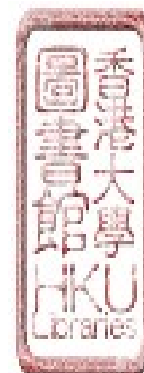
Excerpt from TAP/ND2
ND2: "Indiz" ((laughter)) [5] The explanation, the explanation is funny. ...[3] It seems that, ehm, [2] I think that is something like (...) or [1] just the [2] 'evidence', evidence, ja. Because it's just explained like, ehm, when, when a thief is caught, how, how to charge him, yes, then. I find, I find your, your gloves, eh, funny. I think, I think I can remember this word.

Although the NDef also contains two presumably unknown words ('Verbrechen'/ 'begangen'), they are embedded in a lexically and syntactically simple context, which was enriched by two examples. The reaction of ND2 shows that especially the second example helped her to understand and to remember the word. The example 'Ein Indiz kann ein Gegenstand, z.B. ein Handschuh, sein, den der Verbrecher am Tatort vergessen hat' [A piece of evidence can be an item, for instance a glove which the criminal left at the scene of crime] provided a mental image for the abstract noun. The subject did indeed remember the meaning of the word in both vocabulary tests.

In order to demonstrate the effects of a poor definition context, the excerpt from an LGDaF subject is also presented:

Excerpt from TAP/LG3
LG3: "Indizien"? Was ist *"hindeutet"*? [1]...First, and then I don't know the word *"begangen"*. *"Verbrechen"* – 'to violate'.

LG3 did not know any of the content words in the definition; for one of them, 'Verbrechen', she gave the wrong meaning.

In the NDef of the word 'Unterversorgung' (2) it was presumably the example, 'z.B. mit Vitaminen' [for instance with vitamins], in combination with the redundancy '..ist nicht genug davon da...' [..there is not enough of something..] which helped the subjects to understand the word. However, the NDef subjects did not explicitly mention what helped them to understand the definition. The following excerpt shows that the subject stopped reading immediately after the redundancy and came up with the correct word meaning:

Excerpt from TAP/ND2
ND2: "Unterversorgung", Unterversorgung [1]. *"Wenn man mit etwas oder an etwas, zum Beispiel mit Vitaminen unterversorgt ist, ist nicht genug davon..."* [1] Oh, I know, 'lack'.

The linguistic problems which the LGDaF definition of 'Unterversorgung' presents will be discussed in 6.2.2.3.

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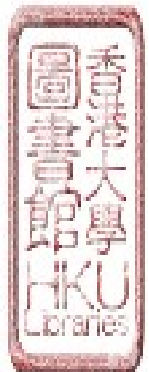
The NDef of the noun 'Ritual' contains the equivalent 'Gewohnheit' as well as the redundancy '..etwas, das Leute ganz regelmäßig tun..' [something which people regularly do], repeating the meaning of 'Gewohnheit' in a modified form. The TAPs do not reveal whether the equivalent helped the NDef users to understand the word. However, in one case it became obvious that the redundancy helped the subject to understand the word meaning:

Excerpt from TAP/ND1:
ND1: Ritual [2], the behaviour [2], what people do, always do or follow [1]. Ah, I see.

Kostrzewa (1991: 103/4, 107; cf. 2.3.3.) also described the positive effect of redundancies on the understanding of word explanations.

Both NDef subjects who looked up 'steuern' understood the meaning, although with some difficulties, as the following excerpt shows[47]:

Excerpt from TAP/ND3
ND3: ...Gewohnheiten steuern..'[1], "steuern" is where? [2] steuern [3], I've learned this word 'steuern' [2]. *"...ein Auto oder ein Fahrrad steuert,fährt man es in eine Richtung...'* *"Wenn man etwas, zum Beispiel ein Gespräch steuert, bestimmt man, wie es sich entwickelt"* [7] 'to examine', or [9] 'under examination'.
R: 'Examination'? Where did you get this from?
ND3: steuern, [1] steuern [3] ((reads sense 2 again)) [7] ((reads sense 1 again)). Mhm, nein. [4] 'Gewohnheiten' is 'habit'. 'steuern' [4], 'to direct' [1] the eating habits [3].

Neither of the NDef subjects indicated which feature in the definition helped them to understand the meaning. Therefore explanations as to why both NDef subjects were more successful can only be derived from the comparison between the NDef and the LGDaF entries. The first, concrete meaning, 'to steer', is presented in the NDef with an example, ' ..ein Auto oder ein Fahrrad steuert..' [steer a car or bicycle]. By contrast, the LGDaF definition offers no example. It contains the abstract noun 'Fahrzeug' [vehicle], as well as more unknown vocabulary ('bewirken', 'bestimmte', 'sich bewegt'). Thus, the possibility to activate the image of steering a car or a bicycle, from which the abstract meaning 'to direct something' can be accessed, is lost through lexical

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[47] In this case, ND3 would not have found the appropriate meaning if the researcher had not interfered with the question.
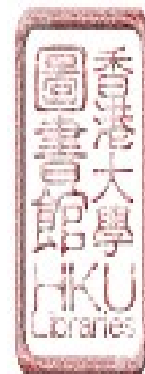
difficulties. In the NDef of the figurative meaning of 'steuern', the example ('z.B. ein Gespräch') is included. This was presumably also helpful for the NDef users. In the LGDaF, the examples are presented after the definition. Neither LGDaF subject read these examples. Previous research has also found that learners tend not to read beyond the first definition in a dictionary entry (Neubach & Cohen 1988: 7; Müllich 1990: 296). This learner behaviour adds support to the NDefs' principle of integrating examples into the definition.

The results in this category underline the importance of using examples and redundancies in simple language in definitions of words in order to make their concepts imageable. If further evidence for the effectiveness of redundancies and examples could be obtained, it would counter Boogard's argument (1996: 292; cf. 6.2.1.1.), that the "more or less redundant" setting of the definition could be a negative feature, because it has little in common with the reading context. The contrary could be true, that the redundancy of the definition context is an important factor for the understanding of the word meaning. There was no indication in the TAPs that once a word was understood, the transfer into the reading context was difficult.

The following hypothesis can be derived from this category: A rich definition context including redundancies and examples is effective for intermediate learners.

There are several more target NDefs that offer examples or redundancies in the definition context. Among these words are the nouns 'Rätsel', 'Kur', as well as the verbs 'abbrechen' and 'lostreten'. However, they were listed in 6.2.1.1. and 6.2.1.2., because it is hypothesised that they are effective because they contain equivalents. As the different factors cannot be completely isolated, it is possible that the equivalents in combination with the examples or redundancies make the definitions of these four words effective.

6.2.1.4. Summary for successful look-ups

The NDefs were designed with the aim of making the definition context helpful to learners. The quantitative analysis of the 17 participants in this study showed the NDefs to be more effective than the LGDaF definitions. However, in the Categories
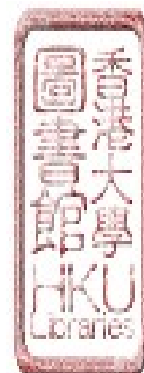
described in the previous sections, some features were identified which make the LGDaF definitions more or equally effective. One reason is that it seems to be easier to identify equivalents and synonyms in the structure of the LGDaF definitions than in the NDefs. This finding corresponds with Hausmann & Gorbahn's argument. They warned that COBUILD's explanation style in "natural spoken language" had the

> "...disadvantage...that the essential parts of the definition.., by not being set off through print, tend to be lost, while in the authentic classroom situation they would be emphasised by the teacher's intonation." (1989: 48).

Further research should establish whether the NDef users would be more successful, if equivalents and synonyms were typographically highlighted in the definitions.

It was found that a rich definition context is effective for the learners. Most NDefs provide redundancies and examples in order to enrich the context, while this is not a defining principle of the LGDaF definitions. However, the LGDaF definitions can be equally effective as the NDefs, if they provide simple phrases and paraphrases which make the concept of the target word imageable.

There are several words which were looked up more successfully by NDef subjects, but which do not fit in any of the above categories. The TAPs did not reveal any specific features which made these NDefs easier to understand. The NDefs are probably better understood, because they contrast with the LGDaF definitions in terms of linguistic difficulty, offering a restricted defining vocabulary and less complicated syntactic structures. Because the subjects commented more on definitions with which they encountered problems, the TAPs contain far more metalinguistic comments on the LGDaF definitions than on the NDefs. Therefore, while it is not possible to provide much positive evidence for individual helpful characteristics of the NDefs, excerpts from LGDaF users in later categories will provide some indirect evidence through explicit descriptions of linguistic problems encountered with the LGDaF definitions (6.2.2.2. – 6.2.2.4.).

6.2.2. Categories for unsuccessful look-ups

Overall, the LGDaF definitions were looked up less successfully than the NDefs. Therefore, three of the four categories in this section (6.2.2.2., 6.2.2.3., and 6.2.2.4.) deal entirely with linguistic problems in LGDaF definitions. However, the first category

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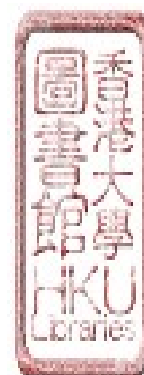
(6.2.2.1.) presents some target words for which the NDefs were not more helpful than the LGDaF definitions.

6.2.2.1. Category 1: Difficulty to reduce full-sentence definitions into one-word equivalents (NDefs)

A number of NDefs, which were looked up less successfully than their LGDaF counterparts, have been dealt with in 6.2.1.1. and 6.2.1.2. There, the problem was that the equivalent or synonym for the target word could not be identified as easily in the full-sentence structure of the NDefs. In this category, a related difficulty, caused by the full-sentence structure, will be discussed.

As in the categories above, the definitions and results for both dictionary conditions are presented in Table 6.10. for comparison:

Table 6.10.: Difficulty to reduce full-sentence definitions into one-word equivalents (NDefs)

NDef	LGDaF
1. Vorwurf: Wenn man jemandem einen **Vorwurf** macht, sagt man ihm deutlich, dass er Fehler gemacht hat ND3: + ND1, ND2, ND5: - ND4, ND6: ? (16,7%)③	1. Vorwurf: e-e Äußerung, mit der man j-m deutlich sagt, welche Fehler er gemacht hat LG2, LG3, LG4, LG6: - (0%)❶
2. Verstoß: 1 Wenn jemand einen **Verstoß** begeht, beachtet er ein Gesetz oder eine Regel nicht und kann dafür bestraft werden ND2: + ND6: - ND1, ND4: ? (25%)❹	2. Verstoß: e-e Handlung, mit der man ein Gesetz od. e-e Regel verletzt LG1: + LG2, LG4, LG5: - (20%)⑤ LG6: ?

In contrast to the NDef subjects, the LGDaF users experienced problems with the vocabulary in the definitions. This factor will be explained in detail in 6.2.2.2.1.

Both the NDeF and the LGDaF definition of 'Vorwurf' consist of two main meaning components which were understood more or less precisely by most subjects:

1) 'jemandem deutlich sagen' [to tell someone firmly];

2) 'dass /welche Fehler er gemacht hat' [that/which mistakes he made].

Most subjects understood either only one component of the word meanings, or even both components, but were not able to combine them into a cohesive concept. The
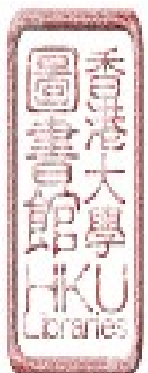
partial understanding ranged from only one component to both, with different degrees of preciseness:

Excerpts from TAPs:
LG4: Ehm, it mean that, ehm, somebody have made a mistake.
LG2: ...[14] Maybe to point out, eh, what he did [1] wrong.

ND4: Ehm [4], I think that "Vorwürfe" means [1] that, ehm [2], someone has done something illegal, and when the police, when the police, ehm [5], über, about, about, ehm [1], about, about what the firm has do then, has done, then, ehm, maybe they will, they will [4], threaten this firm.
ND6: Eh, it's like someone trying to explain him the, ehm, clearly the truth. Eh, ehm, it's like someone trying to tell him what he had, eh, what kind of F-Fehler, eh, wrong he had made.

LG4 understood only the second meaning component. LG2, ND4, and ND6 understood both components, whereby ND4 inferred from the reading context, and thereby exaggerated the first aspect ("police", "threaten"). However, none of the four subjects reached a full understanding of the word, as they paraphrased the noun in a different word class and structure, an infinitive (LG2) or a full sentence (ND4, ND6). They could not reduce the paraphrase into an equivalent of the same part of speech as in the reading context[48]. As a result, they were not able to integrate their own paraphrase into the reading context. Only ND3 came up with the English equivalent 'accusation'.

Müllich (1990: 297, 488) and Kostrzewa (1991: 106) found that their subjects experienced the same difficulty in understanding all components of monolingual definitions and in assembling them into a fully adequate equivalent.

The look-up actions for the noun 'Verstoß' showed similar results. Again, all LGDaF subjects except for LG1 had difficulties with the vocabulary, especially with the superordinate 'Handlung', while no vocabulary problems were experienced by the NDef subjects.

The meaning components of Verstoß are:

1) begeht /Handlung [to do/commit something / an action];
2) Gesetz/Regel nicht beachten/verletzen [not observe/ violate law/rule].

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[48] A factor that may have contributed to this failure is Chinese learners' difficulty in distinguishing different parts of speech; cf. 6.2.1.1.

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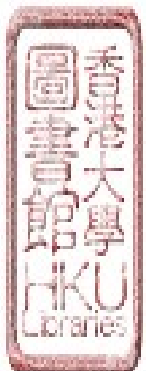
ND1, ND4, and LG6 understood only the second component:

Excerpt from TAP/ND1
ND1: It's some kind of [2] break the laws. It is breaking.

Excerpt from TAP/LG6
LG6: "Handlung", hand- handle, handle with...[2], handle, *"...gegen die.. Gesetz..Regel verletzt..."* [8]. Something, something break the law.

ND2 and LG1 understood both components and paraphrased the meaning of the word:

Excerpt from TAP/ND2:
ND2: I don't know the English word [2]. But I, I can understand what it means, or maybe they have, ehm, just in business, they have done something, ehm, against the law.

Excerpt from TAP/LG1:
LG1: ..it means, ehm, just, eh, ehm, doing something, ehm, and here it's doing something against the law.

None of the subjects could find a suitable equivalent, such as 'offence'.

As mentioned in 3.2.1.4., the subjects were encouraged before and during the think-aloud sessions to write down the equivalent in Chinese if they could not think of the English one. The fact that none of the subjects did so for the two nouns above gives support to the hypothesis that the subjects could understand the meaning components, but not the full meaning of the words.

For both nouns the success rate of NDef users was not much higher than that of LGDaF users, despite the fact that the NDefs offer features which were expected to be helpful. In comparison to their LGDaF counterparts, they do not contain unknown superordinates; for the first noun, 'Vorwurf', the syntax was less complex, and the definition context of 'Verstoß' was enriched by the redundancy '... und kann dafür bestraft werden' [...and can be punished for that].

A possible explanation for the NDef users' lack of success is the structure of the two NDef noun definitions. According to the conventions of traditional lexicography[49], the LGDaF definitions offer superordinates which provide the right part of speech to substitute the unknown word in the reading context. If the superordinate is a familiar lexical item to learners, it gives them access to the semantic field of the word, and

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[49] For a detailed description of the traditional defining style, cf. Chapter 2.2.2.2./3; for the principle of 'substitutability' cf. Hanks 1987: 119.
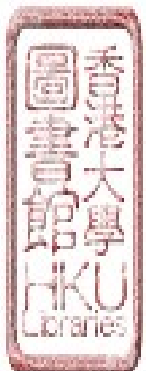
they can presumably understand more easily the other meaning components of the word which are provided in the differentia specifica. Ideally, they will then find an equivalent in his own language. If they cannot find an equivalent, it is still possible to transfer the superordinate, with the other components of meaning attached to it, to the context at hand. The problem for the LGDaF subjects who looked up 'Vorwurf' and 'Verstoß' was that they the superordinates were unfamiliar to them.

In the NDefs, superordinates which were suspected of being unfamiliar to intermediate learners were avoided and replaced with a conditional clause. This if-clause contains the target word in a typical structure. However, as Figure 6.1. illustrates, the if-clause cannot be substituted for a single noun, such as the superordinate can.

Figure 6.1.: Substitution of definitions for 'Vorwurf' in the reading context:

Definitions:

substitute for 'Vorwurf'	component 1	component 2
e-e Äußerung	mit der man j-m deutlich sagt,	welche Fehler er gemacht hat (LGDaF)
(wenn man je-mandem einen Vorwurf macht)	sagt man ihm deutlich,	dass er Fehler gemacht hat (NDef)

Reading context: "Schwere Vorwürfe gegen einen Textillieferanten.."
                          [Severe accusations against a textile supplier...]

Substitution with LGDaF superordinate:
Schwere **Äußerungen /+ component 1 + component 2/** gegen einen Textillieferanten
[Severe statements /+ component 1 +component 2/   against a textile supplier...]

The superordinate 'Äußerungen' can replace the unknown word in the reading context. By contrast, the NDef users must understand the full sentence first, and then transform it into an equivalent in the appropriate word class. That means they have to synthesise a full sentence into a one word equivalent. As the excerpts above show, most subjects in this study could not do so. Therefore their understanding of the two nouns remained a partial one, i.e. that of some components.

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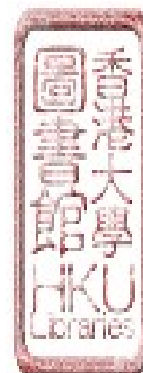
Boogard (1996: 292; cf. 6.2.1.1.) considers it as difficult for the reader to extract relevant information from one setting, i.e. the definition, and adapt it to another one, i.e. the reading context. From the above examples, it seems that the problem is not so much that of extracting information, as several subjects have understood the relevant meaning components. Rather, the difficulty lies in reducing and transforming information in order to make it substitutable for the target word in the source text.

It has to be pointed out that the if-structure does not create the same problem in verb definitions, where it is predominantly used. In verb definitions, the main clause usually contains an equivalent or near-equivalent in the same part of speech as the headword. Therefore, once the equivalent has been identified, no further transformations are needed to substitute it for the unknown word.

As previous examples have shown, learners cope well with noun definitions that have a structure like an equation, such as 'Rätsel' (see Table 6.5.):

Ein **Rätsel** ist eine komplizierte Frage oder Aufgabe....

From this equation, they can extract an equivalent or near-equialent in the same part of speech, sometimes with more meaning components attached to it, and substitute it for the target word. Further examples for noun definitions with the equation structure are 'Aufklärung', 'Riegel' (Table 6.5.), 'Eiweiß', 'Kur' (Table 6.7.), and 'Indiz' (Table 6.9.). All of them with the exception of 'Riegel' were looked up more successfully by NDef users than the nouns in the present category. As has been pointed out in 6.2.1.1. and 6.2.1.2., those definitions are helpful for learners in which a lexical item, that can be substituted for the unknown word, can be identified easily.

The evidence in this Category is rather weak. Of the six target nouns[50] which were defined with an if-structure, only the two presented above were looked up by more than one subject. However, if more evidence could be obtained, the finding that noun definitions whith the if-structure are difficult for learners would have implications for learner lexicography. This method of defining nouns is also used occasionally in COBUILD. If this type of definition is problematic, it must either be avoided, or the dictionary users need to be trained how to synthesise full-sentence definitions in

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[50] The nouns are: 'Gewohnheit, Kampagne, Versand, Vorwurf, Verstoß, Witz. The idiomatic expressions defined with an if-clause are excluded here.

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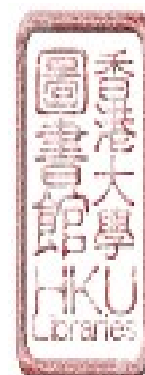
order to obtain a substitute for the unknown word in the reading context. Despite the rather weak evidence, the following hypothesis is put forward: Noun definitions with an if-structure are not effective for intermediate learners.

6.2.2.2. Category 2: Linguistically complex definitions (LGDaF)

The following section deals with problematic features in LGDaF definitions. These features were avoided in the design of the NDefs (cf. 5.2.). The main features of the LGDaF definitions presented in this category are

a. difficult vocabulary;

b. complex syntactic structures;

c. condensed text.

The TAPs show mainly evidence for the first feature, the fact that the definitions contain one or several words which are unknown to learners at the intermediate level. In almost all cases listed below, where the subjects stated that they could not understand the meaning because of unknown vocabulary, the definitions also had difficult syntactic structures and condensed text. Since the different word classes have different characteristics in their definitions, word class forms a sub-category in this section. In Tables 6.11., 6.12., and 6.13., the problematic features for each word are explained in extra columns. The list includes only words which were looked up unsuccessfully by at least two subjects. The results of NDef users are only included for comparison, if they were not listed in previous categories.

6.2.2.2.1. Nouns

As discussed in 2.5.2.3. and 5.1.1., the definition by genus proximum and differentia specifica can cause lexical problems through the superordinates, as well as syntactic problems. The superordinate is frequently followed by more than one subordinate clause. The dependence of several subordinate clauses on a single noun seems unnatural as well as problematic for learners.

The lexical and syntactic difficulties of some LGDaF noun definitions are listed in Table 6.11. However, as shall be discussed below, the subjects expressed difficulties only with the defining vocabulary.

Table 6.11.: Problems encountered with LGDaF noun definitions

LGDaF	Unknown vocabulary	Syntax
1. Vorwurf: e-e Äußerung, mit der man j-m deutlich sagt, welche Fehler er gemacht hat LG2, LG3, LG4, LG6: - (0%)❹	Two of five content words unknown: superordinate 'Äußerung'; 'deutlich'	Two subordinate clauses; Three different pronouns*
2. Verstoß: e-e Handlung, mit der man ein Gesetz od. e-e Regel verletzt LG1: + LG2, LG4, LG5: - LG6: ? (20%)❹	One of four content words unknown: superordinate 'Handlung'	One subordinate clause
3. Indiz: etw., das darauf hindeutet, dass j-d ein Verbrechen begangen hat LG3, LG5, LG6: - (0%)❸	Three of three content words unknown	Two subordinate clauses; three different pronouns*
4. Ritual: 1 e-e (*bes* religiöse) Handlung, die nach festen Regeln in e-r bestimmten Reihenfolge abläuft LG5, LG6: - (0%)❷	Five of six content words unknown: superordinate 'Handlung', 'Reihenfolge', 'ablaufen', 'Regel', 'bestimmt'	One subordinate clause, two prepositional phrases

*the relative pronoun is not counted

The definitions of three nouns ('Vorwurf', 'Verstoß', 'Ritual') contained a superordinate which was unknown to the subjects:

Vorwurf: **Excerpt from TAP/LG2:**
        LG2: I don't quite understand 'Äußerung' or 'deutlich'.

LG3 and LG6 also expressed that they did not understand the superordinate 'Äußerung'.

Verstoß: **Excerpt from TAP/LG4:**
        LG4: 'Handlung', and I don't know the meaning.

LG2, LG5 and LG6 did not know the meaning of 'Handlung' either. LG5 and LG6 mix the noun up with an English verb:

        Excerpt from TAP/LG5:
        R: 'Handlung'? Do you understand this?
        LG5: 'Handlung'. Is it mean, ehm [3], ehm [2], to han- to handle something?

'Handlung' is also the superordinate for the target noun 'Ritual', and frequently used in that function in other LGDaF definitions.

With the superordinate being unfamiliar, the learners cannot even gain access to the semantic field of words, which makes it harder to understand the rest of the definition.
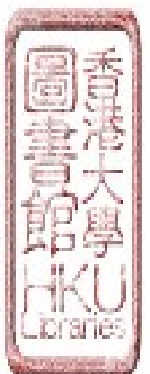
In addition, there were other unknown words in the definitions. Two of the three subjects looking up 'Indiz' were unfamiliar with all content words of the definition (cf. excerpt from TAP/LG3 in 6.2.1.3.).

The following example shows that the subject did not know five of the six content words in the definition of 'Ritual'[51] :

Ritual: **Excerpt from TAP/LG5:**
      LG5: I don't understand 'Reihenfolge', 'ablaufen'.
      R: 'Handlung'? 'Regel'?
      LG5: [3] 'handle'. Ehm, [2], ehm, the regulation. Handle the regulation?
      'bestimmt'? No, I don't understand.

There was not one instance in the TAPs where subjects expressed difficulties with the complex syntactic structures of the noun definitions. Because unknown words are experienced as the most obvious obstacle, problems with the syntactical structures are either not noticed, or play only a minor role.

The question of superordinates certainly needs addressing in dictionary training. Before intermediate learners start using the monolingual dictionary, they should be introduced to the superordinates commonly used in noun definitions. The problem with the LGDaF is that there is no restricted defining vocabulary, and that superordinates are not used consistently (cf. 5.1.6.).

6.2.2.2.2. Verbs

The LGDaF verb definitions are complex in a different way. Although they contain fewer subordinate clauses, the text is often extremely condensed. Not only does the definition itself contain condensation devices such as abbreviations, brackets and different typesets, but also the preceding grammatical information. One example, of the verb 'verzichten' was already explained in 4.3.2.1. The following example illustrates again how confusing the condensed text in verb entries can be:

   LGDaF: irritieren; *irritierte, hat irritiert; Vt* 1 *j-d/etw. irritiert j-n* j-d / etw. macht j-n
   unsicher od. nervös, j-d / etw. verwirrt j-n

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[51] Both subjects only read the first sense of 'Ritual', although the third sense was the approrpiate one for the reading context.
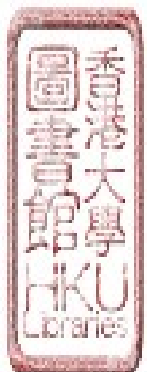
The definition contains a confusing number of abbreviated pronouns. As was explained in 5.1.2., this is an inherent problem in LGDaF verb definitions. In the definition of 'irritieren', the same pronoun is used twice to refer to two different referents, the subject and the object: 'j-d / j-n' (someone/something makes someone unsure or nervous). Through the pronouns the definition reaches a high level of vagueness.

Unsurprisingly, the subjects looking up these verbs were not successful. In Table 6.12., the NDefs are also presented for comparison, as they did not appear in previous categories.

Table 6.12.: Problems encountered with LGDaF verb definitions

NDefs	LGDaF	LGDaF: Unknown vocabulary	LGDaF: Text condensation
1. <u>verzichten</u>: Wenn man auf etwas, z.B. das Mittagessen, **verzichtet**, entscheidet man sich, es nicht zu essen, zu nehmen oder zu benutzen ND3, ND5: + ND1, ND2: - (50%)❶	1. <u>verzichten</u>: (definition in 4.3.2.1.) LG2, LG3: - (0%)❷	One of seven content words, 'Anwesenheit', unknown.	Five abbreviations, inversion, one bracket.
2. <u>irritieren</u>: 1 Wenn mich eine Person oder Sache **irritiert**, werde ich unsicher, nervös oder verwirrt ND 3: + ND 2: ? (50%)❷	2. <u>irritieren</u>: (definition above) LG2, LG5: - (0%)❷	One of four content words unknown: 'verwirrt'.	Six pronouns, seven abbreviations, unclear references.

The density of unknown vocabulary in the LGDaF verb definitions is much lower than in the noun definitions presented before. Each definition contained only one word from outside the Basic Word List. Nevertheless, the subjects failed to understand the definition because of the condensed entry text. This became especially clear in the TAP excerpt of LG3 for the verb 'verzichten', which was quoted in 4.3.2.3.

For 'irritieren' (2), the only meaning the subject derived from the definition by 'kidrule' is 'unsicher' [unsure]:

> **Excerpt from TAP/LG5:**
> LG5: '..macht jemand unsicher oder nervös'? It is 'nicht sicher'? The thing make the people... [1] they are not sure what they are doing.

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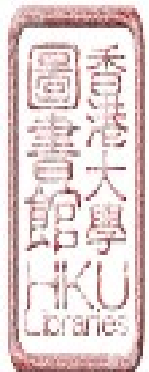
The vocabulary in the definition sentence is part of the Basic Vocabulary and should be familiar to the subject. The only unknown word ('verwirrt') is not necessary for the understanding of the meaning. Presumably the condensed text led the subject to focus on just one familiar word and neglect the rest of the definition. That the abbreviated pronouns caused confusion is evident through the subject's failure to understand their reference: "The thing..the people..".

The TAP of LG2 who also looked up the two verbs does not reveal why she failed to understand their meaning. In both cases she gave up without comment. The condensed text presumably had a deterring effect on her. Neubach & Cohen also reported that their subjects experienced problems with crowded entries (1988: 12).

Unfortunately, the TAPs of the NDef users do not give any clues what facilitated or prevented the understanding of the two verbs.

The excerpts for 'verzichten' (cf. 4.3.2.3.) and 'irritieren' indicate that it is important to provide sufficient and clearly presented information in dictionary entries. Condensation devices make dictionary entries and definition texts crowded and cryptic. They require sophisticated decoding skills and a thorough knowledge of the dictionary's coding system which intermediate learner do not usually possess.

6.2.2.2.3. Adverb

Text condensation as well as vagueness of language occurs in the LGDaF definition of one adverb, 'angeblich':

> **LGDaF: angeblich** *Adj; nur attr od adv;* wie j-d behauptet (was jedoch nicht als sicher od. bewiesen gilt) ≈ vermeintlich: *ihr angeblicher Cousin; er ist a. sehr reich (aber ich glaube es nicht)*

This entry is cluttered with grammatical information, abbreviations, and brackets. A certain vagueness is created by the pronouns 'wie' and 'was' which have no referent. A major meaning component ('was jedoch nicht als sicher od. bewiesen gilt') [what cannot, however, be regarded as reliable or proven] is for no obvious reason enclosed in brackets, which leaves the user in doubt whether this statement should be considered as important or not. Another bracket appears in one example, which also introduces another pronoun ('aber ich glaube es nicht')[but I do not believe it]. Both LGDaf users
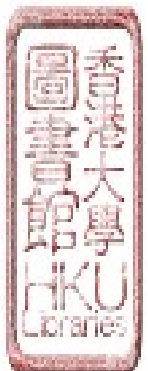
who looked the adverb up failed to understand the meaning, because, as the following excerpt shows, the definition and the example caused confusion:

> **Excerpt from TAP/LG5:**
> **LG2:** 'angeblich'...'...*nicht sicher oder bewiesen gilt*" What, what, what's that? ((laughter))
> **R:** Don't you understand 'behauptet'?
> **LG2:** ((laughter)). No. Maybe [2] this is the explanation of the word *"...was jedoch nicht als sicher oder bewiesen gilt"*? (...) *"...aber ich glaube es nicht"*? ((laughter)) It's confusing.

The NDef for the adverb presents decondensed text which spreads the information over a longer text passage, a feature which in Zöfgen's view is advantageous to understanding (1994: 140).

> **NDef: angeblich** Wenn ich sage: Jemand tut oder ist **angeblich** etwas, dann behaupten andere Leute das, aber ich glaube es nicht oder bin nicht sicher

Of four NDef subjects who looked up the word, two were able to synthesise the explanation into a suitable equivalent (ND2: 'vielleicht'; ND3: 'probably').

As all subjects looking up both the verb and adverb definitions in the LGDaF failed to understand them, there is evidence that condensation devices in the LGDaF definitions prevent understanding. The following hypothesis was derived: Condensed text in definitions is ineffective for intermediate learners.

6.2.2.3. Category 3: Derivational definition (LGDaF)

Derivational definitions were already briefly introduced in 4.3.2.3. In these definitions the unknown word is explained by its root word. The definition technique represents another space saving method which is frequently used in dictionaries. Space is saved by not defining the root word itself, although it carries the meaning of the word. Therefore the user is forced to look up the root word as well. This type of definition is destined to frustrate learners at the intermediate level, because it is usually the root word which they do not know. In the eleven cases when subjects dealt with derivational definitions in this study, only twice was the root word looked up as well – equally unsuccessfully.

The root words used in the LGDaF definitions are underlined in Table 6.13. Only the LGDaF definitions are presented, because the NDefs for 'lostreten' (1), and

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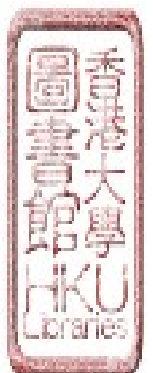
'Unterversorgung' (3) were already listed in Tables 6.5. and 6.9.; the adjective 'unbeliebt' (2) was not looked up by any NDef subjects.

Table 6.13.: Problems with derivational definitions (LGDaF)

LGDaF	Unknown vocabulary	Syntax
1. lostreten: etw. durch Treten von etw. lösen od. in Bewegung setzen LG2, LG3, LG4: -　　　　(0%)❸	Two out of four content words, including root word, unknown	Noun form of verb 'treten' (see Cat. 4)
2. unbeliebt: (bei j-m) nicht beliebt (2) ↔ gern gesehen LG2, LG5:　? LG4, LG6: -　　　　(0%)❹	Root word and antonym unknown	Predicative use of past participle without copula
3. Unterversorgung: →unterversorgt: mit etw. Wichtigem in nicht ausreichendem Maße versorgt LG2, LG3, LG4, LG5: -　　(0%)❹	Three of four content words, including root word, unknown	Predicative use of past participle without copula

The following example shows that the root words was unknown to the subject:

lostreten:　　　　**Excerpt from TAP/LG2:**
　　　　　　　　　　LG2: I don't know the word 'Treten', ja. Maybe some..., something, ja... I don't know what 'Bewegung'..., ja, deshalb, so I can't understand the whole meaning.

In addition to the root word 'treten', another content word was unknown to the subject. Another example, of LG6 failing with the definition of 'unbeliebt' was already presented in 4.3.2.3.

In the following example the subjects did not know three of the four content words, including the root word.

Unterversorgung:　　　**Excerpt from TAP/LG3:**
　　　　　　　　　　　LG3: ... but I don't know what's meant by 'aus- ausreichendem. 'Maße' is 'the measure',..what is 'versorgen'?
　　　　　　　　　　　Excerpt from TAP/LG4:
　　　　　　　　　　　LG4: Ehm, I'm now looking for the word, eh, 'Unterversorgung'. [16] Eh, I can't get the meaning, because, ehm, some words in the explanation, ehm, I think it's quite difficult [1], and like, ehm, 'aus-ausreichendem' and 'Maß-Maße'.
　　　　　　　　　　　R: Do you understand 'versorgt'?
　　　　　　　　　　　LG4: Mhm, no.

The use of the root word for defining the derivative causes not only lexical, but also grammatical difficulties for learners. These difficulties will be discussed in the next
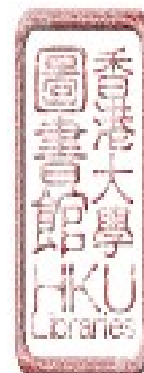
section. The spot check of 60 definitions (cf. 4.3.3.) revealed that this defining method is quite common[52] in the LGDaF.

Requiring the users to carry out more than one, sometimes several look-up actions will eventually deter them from using the monolingual dictionary. How lengthy and tedious the process of finding a word meaning can be is demonstrated by the noun 'Unterversorgung' (lack of something):

Example: Steps involved in looking up 'Unterversorgung' in LGDaF

1. There is no entry for the noun; learners must locate it under the adjective 'unterversorgt'.
2. The definition is based on the root word 'versorgt'. There are two more unknown words in the definition (and at least one in the example). At this point, the learner may already be confused, because in his reading text the noun 'Unterversorgung' appears with the preposition 'an', while the dictionary entry informs him that the participle 'unterversorgt' takes 'mit' (both prepositions can be used).
3. The learner now looks up the word 'versorgt'. There is no entry.
4. He then finds the verb 'versorgen' (to provide). The verb definition has two meanings. The suitable meaning contains one more unknown word, two subordinate clauses, and the text is condensed as in many verb definitions (see 6.2.2.2.2.). It is, even for an advanced learner, impossible to derive the meaning of 'unterversorgt' from that verb definition:

   Vt 1 *j-n / sich/ etw. (mit etw.) v.* bewirken, dass j-d / man selbst/ / etw. das bekommt, das er / man / es braucht (to achieve that someone / oneself / something gets what someone / oneself/ something needs).

This example and others show that lexicographers are obviously neither aware of the steps learners have to take to get to the meaning of derived words, nor of the fact that the definition, at which the learners eventually arrive, might not give any indication of the meaning of the derived word. For learners the concept for the word 'unterversorgt' could be far more easily expressed by 'not having enough of something'.

Although derivational definitions may be an easy option for lexicographers, it seems that they should be avoided in a learners' dictionary. Like the superordinates in noun definitions, the root word is the keyword which allows or prevents access to the

---

[52] In the list of target words for this study alone there were several examples, for instance: abbrechen: etw. durch Brechen entfernen; Aufklärung: das Aufklären; Hinterhof: ein *mst* dunkler Hof
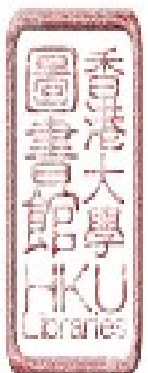
semantic field or the concept of the word. Leaving it unexplained as derivational definitions do means not providing the learner with exactly the information he needs.

In this Category, the LGDaF users' success rate (0%) is in sharp contrast to the success rate the NDef users achieved for 'lostreten' (cf. Table 6.5.: 100%) and 'Unterversorgung' (cf. Table 6.9: 100%). The NDefs for these words are not derivational. Although other factors such as the availability of an equivalent in the NDef of 'lostreten', or the availability of an example in the NDef of 'Unterversorgung' were hypothesised to enhance understanding, the success rate of the NDef users also indicates that non-derivational definitions are more helpful.

Therefore the hypothesis is put forward that derivational definitions are ineffective for intermediate learners.

6.2.2.4. Category 4: Problems with grammatical forms

As mentioned above, in the majority of cases the unknown vocabulary is the first and major obstacle learners experience in the definitions. Problems with grammatical forms are therefore rarely expressed. Two types became apparent in the TAPs: nouns formed from verb infinitives, and the predicative use of past participles without copula.

The noun form of a verb infinitive caused problems in the following derivational definition of 'lostreten':

> **Example: Problem with noun form from infinitive (LGDaF):**
> **LGDaF definition:** etw. durch Treten von etw. lösen od. in Bewegung setzen
>
> **Excerpt from TAP/LG3:**
> **LG3:** What is 'durch Treten' oder 'in Bewegung setzen'? 'To place in movement'? Oh, so I would feel difficulties in understanding the explanation of this sentence *"...durch Treten von etwas lösen..."*. 'lösen' means 'to solve something out'. So, through 'Treten'. I would look for 'treten' once more, maybe I have the meaning wrong. Because 'treten' for me is a verb, but now it's written in large capital letters. So it's now a noun. So, what is it, what is the meaning of 'treten' in noun form?

In addition to the grammatical form, LG3 experienced the same vocabulary problems as LG2 (cf. 6.2.2.3.).

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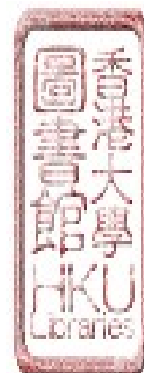
Although intermediate learners should be familiar with the relevant word formation rule, they may encounter problems with the noun forms of verbs, which do not appear frequently in texts at their level. As the learners already have to deal with an unknown lexical item in two unfamiliar contexts (the source text and the definition text), infrequent word forms are not helpful. These noun forms of verbs are used commonly in derivational definitions where they represent the root word. This fact adds more weight to the argument against derivational definitions.

The predicative use of past participles without copula also creates difficulties for learners. In this structure the past participle is the substitute for the target word. The structure appears frequently in the definitions of adjectives or participles, as in the definition of 'unterversorgt':

> **LGDaF definition:** mit etw. Wichtigem in nicht ausreichendem Maße <u>versorgt</u>

The above structure is typical for the lexicographic definition style. Parts of speech that would not be missing in natural language are omitted from the definition, such as a) the predicate linking the definiendum and the definiens (for instance: 'means'), and b) the copula for the predicative past participle, 'ist' (someone <u>is</u> not provided sufficiently with something important). The fact that two prepositional phrases depend on the past participle makes the definition structure very complex.

There are only two adjectives in the list of target words, 'unbeliebt' and 'unterversorgt'. However, for these target words unknown vocabulary was the main reason for unsuccessful look-ups. Therefore, the grammatical problem of the predicative use of a past participle without copula became apparent only once in the TAPs:

> **Example: Problem with predicative use of past participle without copula**
> **LGDaF definition: unbeliebt** (bei j-m) nicht beliebt (2) ↔ gern gesehen
> **Excerpt from TAP/LG4:**
> LG4: And now I look at the word 'un-be-liebt'. [22] Mhm, eh, I can't really understand, because, ehm, the explanation, eh, said.. there are, there are some kind of signs that is difficult to understand. For example number two, there is, ehm, a sign with two arrows, and two ends, and I guess the meaning is 'opposite'.
> R: And then, do you understand?
> LG4: Ja, mhm, '...gern gesehen..', [6] I think it is 'not like to see'.

The subject was initially not sure about the symbol ↔, but guessed rightly that it is used for antonyms. She then took the past participle 'gesehen' for an infinitive,

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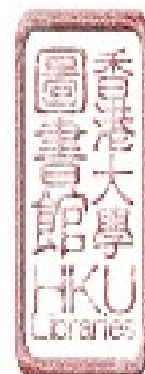
ignoring that this is the wrong part of speech. Aware of the fact that she was dealing with an antonym, she then formed the infinitive into a negative clause. By not recognising the grammatical form, she avoided the far more complicated structure.

Although there is not much support for this category from the data, it is certainly worthy of further investigation. It could be hypothesised that the majority of intermediate learners would encounter problems with the forms and structure described above.

6.2.2.5. The LGDaF's defining vocabulary as a major obstacle

So far, the analysis was concerned with individual definition features that could explain the difference in successful look-up actions between the two monolingual dictionary conditions. These features were presented in different categories. The defining vocabulary itself could not form a category, because it is a basic feature in all definitions. Therefore, the restricted defining vocabulary in the NDefs could not be isolated as an individual factor to be compared with the unrestricted vocabulary of the LGDaF. However, that a restricted defining vocabulary is an important factor for the effectiveness of definitions became apparent through the considerable number of cases when LGDaF subjects failed to understand word meanings because of unknown words in the definitions.

Only in one subcategory of the above categories, 6.2.2.2.1., was the defining vocabulary explicitly described as the reason for the subjects' failure to understand the definitions. The blame was attributed to the LGDaF's defining technique by genus proximum and differentia specifica which required superordinates that turned out to be unfamiliar to intermediate learners. In 6.2.2.3, which is concerned with derivational definitions, unknown vocabulary was also the underlying difficulty. This definition technique inevitably poses vocabulary problems for learners, since the unknown word is defined by the root word of the unknown word.

However, the vocabulary problems the LGDaF users experience are by no means restricted to the superordinates or root words of above categories. The TAPs revealed that the LGDaF's defining vocabulary in general was a frequent cause for

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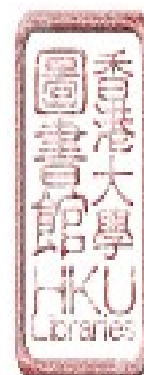
failure. In order to illustrate to what extent the defining vocabulary of the LGDaF causes problems for intermediate learners, those target words, for which there was evidence in the TAPs that the definitions contain unknown vocabulary, are listed below.

Table 6.14.: LGDaF definitions with unfamiliar defining vocabulary

Target word	Number of unsuccessful look-ups	Assumed number of unknown words	Listed in:
1. nüchtern	1	1	
2. Eiweiß	2	7	6.2.1.2., Table 6.7.
3. Kur	1	3	
4. Vorwurf	4	2	
5. Verstoß	3	1	6.2.2.2.1.,
6. Indiz	3	3	Table 6.11
7. Ritual	2	5	
8. angeblich	2	3	6.2.2.2.2.
9. lostreten	3	2	
10. unbeliebt	2	2	6.2.2.3.,
11.Unterversorgung	4	3	Table 6.13

Table 6.14. contains 11 target words which were looked up unsuccessfully by the LGDaF users. The majority of them were not understood by any subject (3, 4, 6, 7, 8, 9, 10, 11). The assumed number of unknown words in the LGDaF definitions for the target words listed in Table 6.15. was determined by checking the Basic Word List (cf. 5.2.1.). Altogether, there are 27 incidents of unsuccessful look-ups for the above target words which are at least partly due to unknown vocabulary. They account for 40.3 percent of the 67 cases when words were looked up unsuccessfully by the LGDaF users (cf. 6.1.1., Table 6.1.). This is a clear indication that the LGDaF's defining vocabulary is beyond the lexical compentence of intermediate learners. The defining vocabulary of a learners' dictionary must be restricted to a certain extent if the dictionary is to be used by intermediate learners.

6.2.2.6. Strategy mistakes

The previous four categories have dealt with problems the subjects experienced with the dictionary definitions. The following section presents insufficient strategies and mistakes made by the dictionary users.
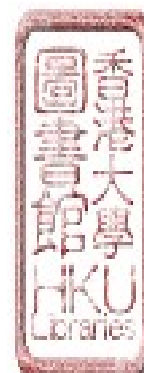
6.2.2.6.1. Reading only part of the entry

A strategy mistake that occurred several times was that subjects read only the first part of the entry, usually the first definition which presented an unsuitable sense of the target word. This learner behaviour was also observed by Neubach & Cohen (1988: 7), and was already discussed in 4.3.2.2.

This mistake was more often made by LGDaF subjects, as the list below shows:

Target word	Subjects
Aufklärung	ND1, ND2
Eiweiß	LG2, LG4
steuern	LG1, LG2

For all three words, the second meaning was the appropriate one. One of the design principles for the NDefs was a clear lay-out of the entries in which each word meaning was assigned a paragraph. Therefore it is not surprising that there were more incidents of LGDaF subjects giving up reading after the first meaning, as the run-on entries in the LGDaF are harder to read.

By not reading beyond the first definition, the subjects miss all further information about the word such as collocations and examples. This is contrary to the expectations of the LGDaF's editors who assert in the 'Instructions for Users' that the "real" meaning of the headwords is to be derived not from the definitions alone, but from the definitions in combination with the additional information (LGDaF 1993: xx, cf. 5.1.6.).

In reality, however, learners seem to make little or no use of the additional information. In this respect it is a positive feature of the NDefs that the examples are included in the definition text.

6.2.2.6.2. Not knowing where to look up: compound words and idiomatic expressions

Compounds are a typical feature of the German language. There is almost no limitation on the formation of new compounds. Therefore only frequent compounds have their own entry in the dictionary, while for the others the dictionary user has to look up the individual components. Compounds are usually written in one word.

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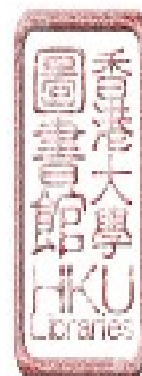
When both parts are unknown by learners, it can be difficult for them to divide the compound into its components. Some LGDaF users experienced problems in determining the components of the following words:

Target word	Subjects
Eßritual	LG2, LG6
Riesenbusineß	LG2, LG6
Textillieferant	LG3

This problem is not a matter of dictionary presentation, but of instruction and training in splitting compound words into their components. As has already been argued in 4.3.2.1., such training is an important prerequisite for the successful use of a German dictionary.

Dictionary users also have difficulties in finding idiomatic phrases. The first reading text contains the idiomatic expression 'aus der Luft gegriffen' [something is made up], which is listed in the entry for 'Luft[53]. Subjects in both dictionary conditions (ND1, ND5, ND6, LG3, LG4), however, looked up under the verb 'greifen', or its participle 'gegriffen'. Although they did not find an entry for the verb, they made no further attempt by looking up the noun. This again is a matter of dictionary training. Different dictionaries follow different conventions as where to list idiomatic phrases. Learners have to be trained to check the lexicographic conventions of their particular dictionary in the front matter. In addition, they should learn to look up all content words until they find the one where the idiomatic expression is listed (Scholfield 1982: 186).

6.2.2.6.3. 'Kidrule'

The most common strategy the learners employed when encountering difficulties with a definition was 'kidrule'. So far, the 'kidrule' strategy was observed in language production, when children or adult foreign language learners composed sentences with unknown target words (cf. 2.6.2.1.). In the present study it became apparent that 'kidrule' is not only applied in the production of texts, but also in comprehension.

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[53] According to the LGDaF's introduction (p. xi), idiomatic expressions are always listed under the first noun of the phrase. Spot checks, however, showed that this rule has not been consistently applied (for instance : *aus dem Gedächtnis streichen* is listed under *streichen*). Athe entry for 'Luft' is so crowded, there would be a strong argument for listing the expression –which appears as the tenth idiomatic phrase after six main meanings- under the verb 'greifen'.
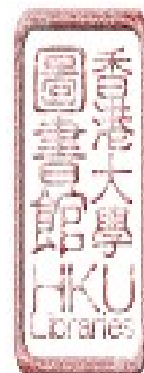
It could be expected that the 'kidrule' strategy would be used mainly for linguistically difficult definitions with several unknown words, i.e. for LGDaF definitions. However, the distribution of 'kidrule' use in the TAP data shows that it is as much due to idiosyncratic look-up strategies as to the difficulty of certain definitions.

Table 6.15.: Use of 'kidrule'

NDefs			LGDaF		
Subject	No of words	Word	Subject	No of words	Word
ND1	1	Verstoß	LG1	-	-
ND2	2	Vorwurf, Aufklärung	LG2	2	Subunternehmer, Schulden
ND3	-	-	LG3	2	Vorwurf, Unterversorgung
ND4	1	fluchtartig	LG4	6	Vorwurf, Witz, lostreten, zwischendurch, knabbern, Eiweiß
ND5	4	Vorwurf, fluchtartig, schuften, Ritual	LG5	1	irritieren
ND6	2	Schulden, ernähren	LG6	3	Vorwurf → Äußerung, Umsatz, Indiz

While the LGDaF definitions for the words above are indeed complex and contain unknown vocabulary (except for the verb 'knabbern'), these characteristics do not apply to the NDefs. Nevertheless, 'kidrule' was used almost as frequently by the NDef subjects (ten times) as by the LGDaF subjects (fourteen times). For the combined number of unsuccessful look-ups among both the NDef and the LGDaF users, 'kidrule' accounted for 23 percent.

As can be seen in Table 6.15., there is one NDef and one LGDaF subject who used the strategy frequently. Interestingly, 'kidrule' was employed more often by the low ability students, while there was one high ability NDef user and one high ability LGDaF user who did not use 'kidrule' at all. They would rather abandon the search for the meaning if they were not able to understand the definition. By contrast, some low ability learners substitute an unknown word by any familiar word from the definition, regardless even of different word classes, as the following example shows:

Example1: Use of 'kidrule'
NDef: ernähren 2 Wenn man sich oder seine Familie ernähren kann, verdient man genug, um die Kosten für sich oder die Familie zu bezahlen
(If you are able to feed yourself or your family, you earn enough money to pay for the costs for yourself and the family)
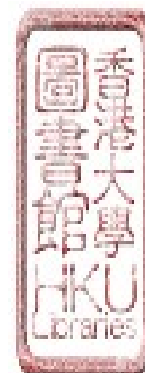
NG6: ernähren? [12] Ah, it is "enough". [10] Eh, he has, eh, given enough, eh, [3] for the 'mittags'.

The subject chose from the explanation sentence the most familiar word, the adverb 'genug' [enough] and substituted the verb 'ernähren' with it. The meaning of the relevant sentence in the reading text thus became completely distorted.

Another example demonstrates how a subject completely disregarded the syntactic environment from which she picked out a substitute:

Example 2: Use of 'kidrule'
LGDaF definition: Vorwurf e-e Äußerung, mit der man j-m deutlich sagt, welche Fehler er gemacht hat
[statement with which you say clearly which mistakes someone has made]
LG6: I don't know this word "Vorwürfe'. [2] 'werfen', maybe something similar to 'werfen'. [14] ((reads definition)) [7] *"Äußerung, mit der man...?"* I don't know what's meant with 'Äußerung'. ((looks up entry for 'Äußerung')) [33]

LGDaF definition: Äußerung das, was j-d zu e-m Thema (als persönliche Meinung) sagt od. schreibt ≈ Bemerkung
[what someone says or writes about a theme/topic]

LG6: Äußerungen.... ach so, hier. 'Thema' [5]. Thema, mit dem man [3] deutlich sagt....mhm. [9]

This was one of the rare incidents when a subject carried out a second look-up action for one target word, searching for the meaning of the unknown superordinate in the first definition. In the definition for the superordinate 'Äußerung', the subject immediately focused on the only noun in the definition. Neglecting the fact that this noun was part of a prepositional phrase in a subordinate clause, she used it as a substitute for the unknown superordinate in the first definition.

'Kidrule' is the reverse of the successful strategy of identifying an equivalent of the target word in the definition (cf. 6.2.1.1.). If a suitable equivalent is available in the definition and the learners manage to identify it, the look-up action will be successful. If a definition does not contain an equivalent, especially weaker subjects still search for one and accept unsuitable words instead, just because they are familiar.

6.2.2.7. Dictionary weaknesses
An obvious weakness in the LGDaF is the presentation of derived nouns: they usually are listed under the root word without their own meaning being presented, even when the meaning of the noun cannot be derived from that root word so easily. In cases
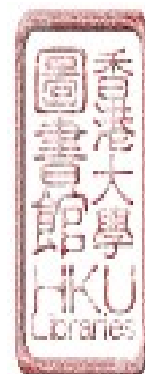
where a noun is a regular derivative (for instance with the suffix '–ung') from a verb with a smaller number of meanings, learners are capable of deriving the noun meaning, as could be seen in the case of 'Umstellung < umstellen' (cf. 6.2.1.4.). But there are a number of nouns where deriving the meaning from the root word is not so straightforward, either because the root word is polysemous or because the affixes used for derivation are unknown to learners. As Scholfield points out:

> "Indeed many dictionaries assume a rather greater knowledge of word formation processes on the part of the user." (1982: 187)

Among the target words there is one example where it is impossible for learners to derive the meaning from the root word: the noun 'Lieferant' (Textillieferant) is listed at the bottom of the verb entry 'liefern'. It is highly unlikely that learners know the unproductive suffix '-ant' as describing a person carrying out an action. The subject who looked up 'Lieferant' understood the verb meaning, but was not able to understand the noun with the unfamiliar suffix:

Excerpt from TAP/LG6
LG6: I just..[4] liefe-, liefer-, liefer- [5], Lieferung, liefer- [20].
R: You are looking for 'liefern'?
LG6: Mhm.
R: Or which word are you looking for?
LG6: 'liefern'. But there is no 'n' here. I'm looking for.., I want to, eh, find out what's mean, eh, that '-lieferanten', but I can't find the word, find the whole word. I can just find the word [2] 'liefern'. 'liefern' means ((reads grammatical explanation of verb)).. lieferbar', 'Lieferant'. But what's..[2]
R: No meaning?
LG6: No meaning. Is it [2] the noun... 'Lieferanten' is the noun of 'liefern'. And 'liefern' means ((reads entry aloud)) [5]. It seems mean 'deliver' in English. 'deliver' and 'Lieferanten', just [2] the nomen of 'deliver'.

The regular noun derivative of the verb 'liefern', however, is 'Lieferung' [delivery]. Listing derivatives under the root word is one of the space saving devices of the LGDaF.

There are a number of space saving devices in the LGDaF which create difficulties for untrained users in particular. They can be divided in those that concern the entry lay-out and macro-structure, such as 1) and 2), and those that concern the definition text, such as 3) and 4).

1) Crowding entries through abbreviations, symbols, brackets. Condensation devices are especially common in verb entries (example: 'verzichten'/ 6.2.2.2.2.);
2) Listing derivatives under their root word (example: LGDaF: 'Unterversorgung'/ 6.2.2.6.);
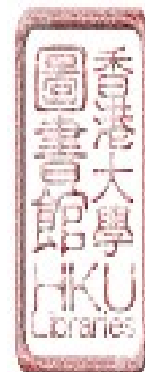
3) Derivational definitions, i.e. explaining the target word by its root word (example: 'unbeliebt'/ 6.2.2.3.);
4) Not providing a rich definition context (redundancies and examples) for abstract and conceptually difficult words (example:'Indiz'/ 6.2.1.3.).

As argued above, saving space should not be enforced at the cost of user-friendliness in a learners' dictionary.

6.3. Qualitative analysis: bilingual dictionary

The data from the bilingual dictionary users confirmed the findings of the small-scale introspective study. Successful and unsuccessful consultation of the bilingual dictionary is, to a much larger extent, due to appropriate or inappropriate strategies than is the case for the monolingual dictionaries. The TAP data revealed that users of the bilingual dictionary tend to read entries more superficially, abandoning reading as soon as they have detected a seemingly suitable English equivalent for the target word. A common strategy mistake was to read only the first part of the entry, thus missing the appropriate equivalent which appeared later in the entry. This strategy could be observed far more often in the bilingual dictionary condition than in the monolingual ones.

6.3.1. Successful look-ups

As discussed in 4.3.2.2., those words were most successfully looked up which only have one meaning, or where the appropriate equivalent was the first meaning listed in the entry. Of the 39 words included in the qualitative analysis, 24 fell into this category.

The success rate for this category was high: Twelve words were successfully looked up in all consultations, one word in 80% of the consultations and two in 75% of all consultations. In Table 6.16., those words are listed which were looked up successfully by more than two subjects:

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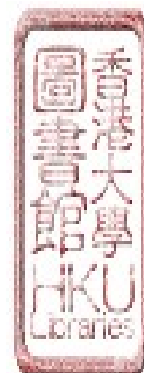
Table 6.16.: Word has only one meaning/ appropriate meaning is the first in entry

Target word/Look-ups		Equivalent
1. Unterversorgung: BL1, BL2, BL3, BL4, BL5: +	100%☻	1. undersupply(ing)[54]
2. Mahlzeit: BL1, BL2, BL3, BL5: +	100%☻	2. meal
3. zwischendurch: BL1, BL2, BL3, BL5: +	100%☻	3. in between
4. Hinterhof: BL1, BL2, BL6: +	100%☻	4. backyard
5. Gewohnheit: BL1, BL4, BL5: +	100%☻	5. habit
6. Ernährung: BL2, BL3, BL4, BL5: + BL1: ?	80%☻	6. food
7. Vorwurf: BL2, BL3, BL5: + BL4: -	75%☻	7. reproach, accusation
8. Verstoß: BL1, BL2, BL3: + BL 4: -	75%☻	8. offence

There was only one case in which the appropriate meaning was found by all five subjects despite the fact that it was not the first, but the second meaning listed in the entry ('fluchtartig = in a hurry').

As Hartmann (1989b: 109) points out, findings like this have important implications for dictionary design, and the way the different senses of words are arranged in entries. In 4.3.3., it was suggested that the meanings of polysemous words should always be arranged by frequency in dictionary entries. Since users are more likely to notice meanings with initial position in the entries, this arrangement increases their chance of finding the suitable meaning. In this study, further evidence for this recommendation was found.

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[54] This word, which seems to be a direct translation of the German equivalent, could not be located in any monolingual English dictionary.

6.3.2. Unsuccessful look-ups

There are four categories for unsuccessful look-ups by the bilingual dictionary users. In the small-scale think-aloud study, a fifth category of unsuccessful look-up actions in the bilingual dictionary was identified, i.e. that of subjects ignoring and misunderstanding symbols and abbreviations (cf. 4.3.2.). However, no further evidence for this category was found in the present investigation. In the following two categories, insufficient strategies were the reason for failure.

6.3.2.1. Category 1: Reading only the first meaning of the entry

When the suitable equivalent for a target word did not appear at the beginning of the entry, the learners tended to miss it because they would not read beyond the first meaning. For this reason, there were twelve unsuccessful look-ups for five polysemous words ('Riegel, nüchtern, steuern, Eiweiß, Schulden'); the overall success rate for these words was only 33 percent.

The equivalent of 'Riegel' was not found by any of the five subjects, as none of them read beyond the first meaning:

> LNCGD entry: Riegel 1. bolt; latch; *den ~ vorlegen* bolt the door *etc.; fig. **e-r Sache** **e-n ~ vorschieben** put a stop to s.th. → **Schloß¹;** 2. strip, *Brit.* row *of chocolate;*
> Excerpt from TAP/BL2:
> BL2: Ok, I check the word 'Riegel' first. Rieg- [12]. Aha, "bolt, latch'. Ok, so there are two English words I don't know.

If the subjects had read the second meaning, however, they would probably still have had a problem with the equivalent 'row', which is much more uncommon than the expression 'bar (of chocolate)'.

Nevertheless, learners need to be trained to scan the whole entry of a word for more suitable equivalents (Scholfield 1982:188). The failure to do so is, as Cowie (1999: 188/9) reports, a widespread problem.

6.3.2.2. Category 2: Failing to find the right entry

More than in the other conditions, the bilingual dictionary users failed to locate the right entry for target words. This was certainly due to the fact that they used the dictionary in book format, while the subjects in the NDef and LGDaF conditions

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worked with word lists, as explained in 3.2.1.2. However, some difficulties that certain word forms in German offer to learners became apparent in this Category.

Table 6.17.: Failing to find the right entry

Target words/ look-ups	Explanations of difficulties
1. <u>auflösen</u>: grammatical form in text: 'aufgelöst' BL4: + BL3: ? BL1, BL2: - 25%❶	1. BL 1 and BL2 did not look up the verb 'auflösen', but the past participle 'aufgelöst' which developed into an adjective with a different meaning (untidy, loose) from the verb meaning (dissolve, to close down). This is a potential problem for a number of participles.
2. <u>greifen</u>: grammatical form in text: 'gegriffen' BL4, BL5: - 0%❷	2. Subjects did not recognise the vowel change (ei → i) in the past participle and looked for the infinitive 'griffen'. One subject found the noun 'Griff'. Both missed the fact that the dictionary lists the participle with reference to the right infinitive.
3. <u>geschehen</u>: grammatical form in text: 'geschieht' BL3, BL5: - 0%❷	3. Subjects identified the verb prefix 'ge-' as prefix for past participle. They looked for infinitives such as 'scheihen, schiehen, geschiehen'. This is another potential problem as there are a number of verbs prefixed with 'ge-'.

The explanations for the three words in Table 6.16. show that the subjects are not sufficiently trained in the necessary looking-up techniques. In all three cases they would have to look at more than one entry in order to find the appropriate word.

According to the examples above, learners need to be trained in the following three dictionary strategies:

1. They must clarify exactly the part of speech of the unknown word in the context. If learners do that before looking up a word, they would not be satisfied with replacing the verb form 'gegriffen' with the noun 'Griff'.
2. If the equivalent they found and other equivalents in the entry make no sense in the context, they must check adjacent entries. This rule would have helped to find the verb entry for 'auflösen'.
3. If they cannot find an infinitive, they should try to find an entry for the inflected form. In the case of irregular verbs, participles are listed. This rule would have led to the verb 'greifen'.

The importance of the above strategies was also stressed by Scholfield (1982: 186 – 188).

Two of the subjects also encountered problems with the compound words 'Textillieferant' and "Eßritual'. The need for training in identifying the components of compound words in order to use a dictionary was already discussed (cf. 4.3.2.1.; 6.2.2.5.2.).

6.3.2.3. Category 3: Unknown English equivalents

An unexpected finding of the previous experiment was that the use of the bilingual dictionary did not result in significantly better test results (cf. Chapter 4.4.). One reason for this became obvious in the TAPs: the subjects are not familiar with a number of equivalents given in the English-German dictionary. This problem occurred with six words:

Table 6.18.: Unknown English equivalents

Target word/Look-ups	Equivalent
1. knabbern: BL1, BL2, BL3, BL4, BL5: - (0%)❺	1. to nibble
2. Riegel: BL1, BL2, BL3, BL4, BL5: - (0%)❺	2. bolt, latch (subjects did not read the 2nd meaning: *row of chocolate*)
3. Rätsel: BL2, BL3, BL4, BL5: - (0%)❹	3. riddle, puzzle, mystery
4. Indiz: BL1: + BL2, BL3, BL4: - (25%)❹	4. circumstantial evidence
5. schuften: BL4: + BL5: ? BL 3: - (33%)❸	5. slave, sweat away, work one's butt off
6. Näherin: BL3, BL5: - (0%)❷	6. seamstress

Certainly these English equivalents do not belong to the most frequent vocabulary of English[55]. In the previous categories it was noticed that the subjects abandon their searches rather quickly, not reading the whole entries or looking at nearby entries,

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[55] Only one equivalent, 'mystery', belongs to the 2000-word defining vocabulary of the LDOCE.
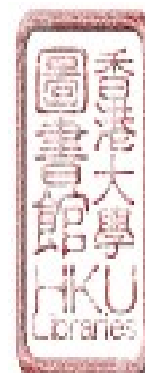
even if their search does not yield satisfactory answers. The subjects' approach to unknown English equivalents was similarly indifferent: the search was abandoned without any further attempts to understand the word meanings. Obviously, the experience of unfamiliar English equivalents is a common one for them.

There were 20 unsuccessful look-ups in this category which account for 40.8 percent of the total number of words unsuccessfully looked up in the bilingual dictionary condition (49 words; cf. Table 6.1.). This highlights the fact that the dictionary situation of Hong Kong foreign language students is not satisfactory. As the survey has shown, the majority of German and French learners rely on FL-English bilingual dictionaries because they are regarded as easier (cf. 4.1.4.); yet, even in the limited framework of this research, there is a substantial number of incidents when the subjects did not understand the English equivalents.

6.3.2.4 Dictionary weaknesses

In the limited number of thirty nine target words in this study there were seven words with more or less inadequate information in the LNCGD.

> 1. The verb 'lostreten' which was looked up by all five subjects in the BL group, has no entry at all, despite the fact that the LNCGD has a larger number of references than the LGDaF, and that the verb 'lostreten' seems to appear regularly with the meaning 'to start off something'. However, in the absence of a suitable corpus it is difficult to decide whether a word should be included into the dictionary's references.

Four words do not have all their meanings represented:

> 2. Aufklärung: the meaning 'information', which was needed for the subjects' context, is missing. All five BL subjects looked up this word unsuccessfully.
>
> 3. Umstellung: the list of five equivalents ends with 'etc'. The meaning needed, 'change', is not listed. For two of three subjects who looked up this word it was too difficult to make the transfer to 'change' from the five equivalents which have related meanings.
>
> 4. Unterversorgung: the meaning given is 'undersupply(ing)'. An important meaning of the noun, 'lack of something' ('lack of vitamins' in the reading text) is missing.
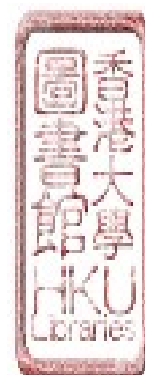
5. nüchtern: the meaning of this adjective which was relevant for the reading text has no one-word equivalent in English and has to be paraphrased as 'not having eaten anything' or 'having an empty stomach'. The LNCGD only provides an example sentence ('*Ich war* ~ I hadn't eaten anything). The example requires more transformation skills than the paraphrase, which could substitute the target word in the source text.

One noun has no entry, but is listed as a grammatical form of its base word, although there are not semantically closely related anymore:

6. The noun 'Schulden' (debts), which was originally the plural form of 'Schuld' (blame; sin), acquired its own meaning. Therefore it should have its own entry in the dictionary. As it is part of the entry for 'Schuld' in the LNCGD, introduced only with '2 *usu. pl*', it is not surprising that the two subjects who looked it up did not find the relevant reference.

In one case, no equivalent is given for the most common form of the word:

7. The adjective/adverb 'angeblich' is mostly used in the adverb function. However, the entry only presents the adjectives 'alleged, supposed, ostensible'. One adverb form (*supposedly*) should be presented. This would have made it easier for the three subjects, who looked up the word unsuccessfully, to transfer it to their context where 'angeblich' appears as an adverb.

The examples show that even a bilingual learners' dictionary, which is usually regarded as the easiest option for users, presents a number of difficulties. Especially, by not providing all the meanings of words the lexicographers overestimate the skills of learners. It means that the learners have to extract a common concept or "core of meaning" (Scholfield 1982: 192) from the equivalents given, and try to integrate it into the source text. The results for the words 'Aufklärung' and 'Umstellung' demonstrate that this exercise is too demanding for intermediate learners. The list of equivalents should include all meanings of a word, and also the most common forms in which words appear.
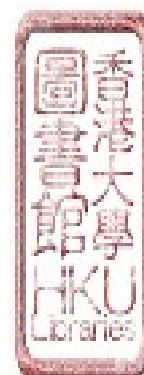
6.3.3. Discussion

Although the emphasis of this study was on the effectiveness of monolingual dictionary definitions, the use of the bilingual dictionary was also investigated for the purpose of triangulation. The results in this study confirmed the findings of the small-scale think-aloud study, that mainly strategy mistakes and a lack of reference skills lead to unsuccessful consultation of the bilingual dictionary. Most importantly, the suspicion that the learners obviously misjudge the effectiveness of the German-English bilingual dictionary (cf. 4.3.2.1.) was confirmed. As the number of cases in which subjects did not know the English equivalent demonstrates, their English vocabulary is not large enough to use this dictionary type effectively. This adds weight to the argument that the Hong Kong Chinese learners of German should be encouraged as early as possible to use the monolingual dictionary for reading (cf. 4.4.). With the preliminary findings of the small-scale study confirmed, the use of the bilingual dictionary will not be further investigated in this thesis.

6.4. Summary

The main think-aloud study revealed a number of factors that enhance or impede the understanding of monolingual dictionary definitions. However, before the discussion turns to these factors, some important side-findings are summarised. These were made in the following areas:

1. Learners' look-up strategies;
2. Weaknesses in dictionary presentation.

Although these areas are not the main concern of this research, they are certainly of much importance to educators and lexicographers, and should be further explored by future research.

6.4.1. Learners' look-up strategies

Strategy mistakes accounted for a considerable amount of failures to find words or word meanings in dictionaries. This applies more to bilingual dictionary users and more to low verbal ability subjects.

Across the dictionary conditions the learners showed a tendency to read dictionary entries superficially and partially, to skip any information that seemed difficult or
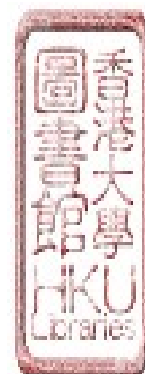
redundant to them, and to abandon their search as quickly as possible, even if the answer they found was not satisfactory.

A strategy that learners in all three dictionary conditions demonstrated is the search for a (one-word) equivalent which can be substituted for the target word. This strategy may lead to success, if an entry or a definition does contain an equivalent or synonym. In many cases, however, it leads to failure, as the learners take an unsuitable word or even word form for an equivalent. The frequent use of the 'kidrule' strategy, as well as the successful look-ups of definitions containing equivalents or synonyms (cf. 6.2.1.1. and 6.2.1.2.), gave insight into the way intermediate learners tend to read dictionary definitions: They scan the definition for familiar words trying to find a substitute for the target word. It seems that the more unknown content words the definition contains, the more inclined the learners are to take just any familiar word in the definition as an equivalent, regardless of the syntactic structures in which they appear. Once the scanning of an entry or a definition has provided the learners with an equivalent or what they take for one, all further information will usually be ignored. Müllich who observed the same strategies by more advanced learners points out that with this behaviour users counteract the purpose the monolingual dictionary "by using it almost as a bilingual one" (1990: 489).

This strategy explains why the subjects expressed few difficulties with the syntax of definitions: frequently they did not proceed beyond the scanning stage, and therefore did not deal with the syntax. It is certainly the heavy reliance on bilingual dictionaries in the subjects' secondary school education which has conditioned them to look for equivalents, while they are not used to other types of explanation (cf. 1.3., 4.1.1.).

Another finding was that the learners were not always able to locate words in the dictionary, for instance if a word appeared in an inflected form. Several times learners looked up the wrong part of speech or the wrong components in case of idiomatic phrases. On the one hand this demonstrates that the subjects are not familiar with lexicographic conventions, for example the fact that irregular inflected forms are usually listed. On the other hand it suggests that the learners are not trained to apply their grammatical knowledge when using the dictionary.
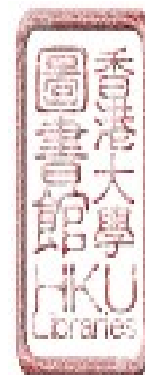
Considering that all subjects have at least ten years experience in using dictionaries, the absence of appropriate strategies is somewhat surprising. It leads to the conclusion that the learners were never sufficiently prepared for dictionary use. The findings of this study underline the necessity of dictionary training as part of the regular classroom activities. Although the importance of dictionary training has been pointed out frequently (Scholfield 1982, Heath & Herbst 1985), no systematic research into methods and effects of such training has been carried out so far. The findings of this study indicate which strategies have to be learned, and some have been specified above (6.3.2.2.). Further investigations are needed to determine whether the acquisition of such strategies will help learners to use their dictionaries more effectively.

6.4.2. Weaknesses in dictionary presentation

One major weakness in dictionary presentation, which is most apparent in the LGDaF, is the attempt to save space. Space saving devices usually leave the learner with confusing or insufficient information about the target words. In the bilingual dictionary (LNCGD), too, several entries were found to offer incomplete information, probably due to the same reason.

The results of this investigation have shown that space saving devices are counter-productive in a learners' dictionary, as they make successful dictionary consultation difficult, if not impossible for intermediate leaners. If dictionary publishers want intermediate learners to be able to use learners' dictionaries, they have to give up tight space constraints for the sake of sufficient information.

6.4.3. The effectiveness of the two monolingual definition types

The aim of the present study was to identify definition features which are problematic for intermediate learners, and those which help them to understand the definitions. Several such features were found, and hypotheses about the effectiveness of these features were developed. In the next study (cf. Chapter 7), they will be tested experimentally with a larger sample. The aim is to propose lexicographic suggestions as to which features should be avoided or included in learners' dictionaries.

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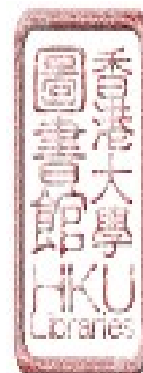
The answers to the research questions for this study (cf. 6.1.and 6.2.) and the hypotheses derived from the findings are the following:

Research question 1: Do subjects using the NDefs understand the meaning of more unknown words than those using the LGDaF or the bilingual dictionary?

Overall, the NDef subjects understood a larger number of words than the LGDaF subjects, and the subjects using the bilingual dictionary. Equally, the number of words which the NDef subjects did not understand was smaller. Since the small sample size did not allow for statistical testing of the differences, the following hypothesis will be tested with a larger sample in the next experiment:

Hypothesis 1: The NDefs are more effective for intermediate learners than the LGDaF definitions.

The research did not provide answers to the questions which dictionary type is more effective for incidental vocabulary learning and reading comprehension (research questions 3 and 4, cf. 6.1.). As was argued in 6.1.4., the validity of the testing method for measuring dictionary effectiveness was called into question.

Research question 2.1.: Which features make monolingual dictionary definitions effective for intermediate learners?

There was evidence for the effectiveness of only two individual factors. One reason for the small number is that some features in definitions cannot be isolated, but work in combination with others. Another reason is that there were only six subjects in both the NDef and the LGDaF groups. Consequently, some target words were not looked up, or looked up by only one subject, and no evidence could be obtained for features that were hypothesised to be effective or ineffective.

Equivalents and synonyms in definitions were found to be helpful for learners, as they can be substituted for the unknown word. When both definition types contain an equivalent or a synonym, the LGDaF definitions were found to be more effective than the full-sentence structure of the NDefs, because the equivalent or synonym can be better identified in the LGDaF structure.

Hypothesis 2.1.: Equivalents and synonyms in definitions are effective for learners. They are most helpful if they are not embedded in a full-sentence structure.

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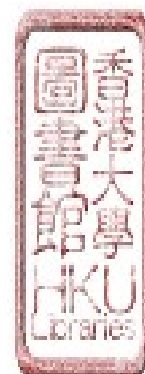
The second feature which was found to be effective was a rich definition context through the integration of redundancies and examples into the definition text. The NDefs offer more rich definition contexts than the LGDaF definitions.

Hypothesis 2.2: A rich definition context including redundancies and examples is effective for intermediate learners.

Research question 2.2.: Which features make monolingual dictionary definitions ineffective for intermediate learners?

There was some, if weak evidence of a NDef feature which is not helpful. Subjects seem to have problems with NDef noun definitions where the target noun is embedded in a conditional clause. They do not seem to be able to synthesise the full-sentence definition into an equivalent for the unknown word.

Hypothesis 2.3.: Noun definitions with an if-structure are ineffective for intermediate learners.

There was evidence that text condensation in the LGDaF definitions of verbs and adverbs prevented the subjects from understanding them.

Hypothesis 2.4.: Condensed text in definitions is ineffective for intermediate learners.

The next hypothesis is based on the finding that none of the derivational definitions among the target words of this research were understood by the subjects. Derivational definitions appear regularly in the LGDaF.

Hypothesis 2.5.: Derivational definitions are ineffective for intermediate learners.

By far the most important feature in definitions seems to be the defining vocabulary. The NDefs' most effective feature may be the restricted defining vocabulary, while the weakest feature of the LGDaF definitions may be the unrestricted defining vocabulary. As was illustrated in 6.2.2.5., the uncontrolled defining vocabulary in the LGDaF definitions accounts for up to 40 percent of the failures. However, the
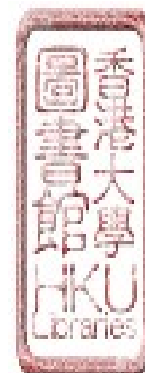
effectiveness of a restricted versus an unrestricted defining vocabulary cannot be put forward as a hypothesis. Since the defining vocabulary is a basic feature of all definitions, it cannot be isolated for testing. In other words, the restricted defining vocabulary in the NDefs cannot be compared as an individual factor with the unrestricted vocabulary of the LGDaF. Therefore, if the overall results of the next experiment show that NDefs are more effective than the LGDaF definitions, the effectiveness must be partly attributed to the NDefs' controlled defining vocabulary.

Not much evidence could be obtained of the effect that complex syntactic structures in definitions have on intermediate learners. In future research, it should be examined in more detail whether the syntax in definitions affects understanding, or whether understanding relies largely on the defining vocabulary. However, this type of research involves the manipulation of the definitions and is beyond the scope of this thesis.

The above hypotheses are based on the observation of a small sample and sometimes individual incidents. Therefore they have to be substantiated with more evidence. This evidence will be sought in the next experiment in which the effectiveness of the two monolingual dictionary types will be compared with a larger number of subjects. This experiment is reported in Chapter 7.

Finally, it has to be noted that in this Chapter some individual observations were reported although there was not enough evidence to derive hypotheses from them. One example is the observation that the difficult LGDaF definition text prevented subjects from locating the relevant information (cf. 6.2.1.2., Table 6.7). For two of the three target words, only one subject was observed to have this problem. This and other observations were considered worthy of reporting, as it is the goal of qualitative research to describe phenomena that have not been previously described. The observed phenomena can provide the basis for further research.
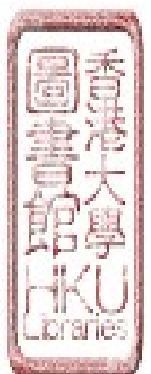
7.0. Introduction

In this Chapter, the second investigation into the effectiveness of the two monolingual definition types, the NDefs and the LGDaF definitions, is reported on. As a complementary research method to the previous think-aloud study, an experiment was conducted in which the effectiveness of the two definition types was measured quantitatively. While the think-aloud study was hypotheses-generating, the aim of the experiment was to test these hypotheses. As was discussed in 2.7., there has been little empirical research into the pedagogical and lexicographic discussion about the effectiveness of different dictionaries and different definition features. Once statistical evidence has been obtained for the hypotheses derived from the think-aloud study, some empirically based recommendations about suitable definition types for intermediate learners can be made.

In the think-aloud study, the NDef users understood a larger number of words from the definitions than the LGDaF users, while the number of words they failed to understand was smaller than that of the LGDaF users. However, as both groups consisted of only six subjects, the hypothesis that the NDefs are more effective for intermediate learners than the LGDaF definitions has still to be confirmed by evidence from a larger sample. Furthermore, the analysis of the think-aloud protocols revealed a number of factors which seem to either facilitate or impede the understanding of definitions. From these findings, a group of five hypotheses, concerning the effectiveness of certain definition features, were put forward (cf. 6.4.3.). These hypotheses were subjected to testing with a larger sample and reported in the present study. As will be explained in 7.1., an additional hypothesis concerning the entry lay-out was also tested in the experiment, although it was not based on evidence from the think-aloud study.

The selection of target words for the different hypotheses will be explained here in more detail. Afterwards, the subjects' overall performance is reported, followed by the analysis of the subjects' performance in looking up individual words.

7.1. The selection of target words for the different hypotheses

The main hypothesis for this experiment is the following:

Hypothesis 1: The NDefs are more effective for intermediate learners than the LGDaF definitions.

The first experiment investigated whether the low verbal ability students would especially benefit from what was hypothesised to be the 'easier' dictionary, i.e. the bilingual one (cf. 4.2.). Equally, in this experiment the question of whether the low verbal ability students would especially benefit from the NDefs was examined. The verbal ability factor could not be examined in the think-aloud study, because the samples were too small. As the number of participants in this experiment was much larger, the following hypothesis was added to the main hypothesis:

Hypothesis 1.1.: The NDefs are particularly effective for intermediate learners of low verbal ability.

To test these hypotheses, the number of successful look-ups of all target words selected for the experiment were compared between NDef and LGDaF users. The NDefs were hypothesised to be more suitable for intermediate learners than the LGDaF definitions, because of their basic features, as well as several individual features. The basic features are the restricted defining vocabulary and full-sentence explanations in the NDefs versus the unrestricted defining vocabulary and condensed, often syntactically complex, definition text of the LGDaF (cf. 5.2.1, 5.2.2.). Since the basic features are common to all definitions, they cannot be isolated from others and tested individually. Therefore, if the NDefs prove to be more effective in the overall comparison, it can be claimed that this is to a certain extent due to those basic features which do not exist in the LGDaF definitions.

The second main research question for the experiment asks which factors make monolingual dictionary definitions effective, and which factors make them ineffective for intermediate learners. In order to answer this question, six hypotheses concerning individual definition features were tested. In contrast to the basic features, the individual features do not appear in all definitions, and can therefore be more easily isolated. As mentioned in 7.0., five of the six hypotheses were based on findings in
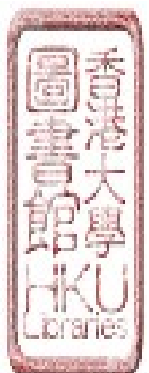
the main think aloud study. These five hypotheses were derived from five different categories of successful and unsuccessful look-up actions, as identified in the main think-aloud study. Therefore, most target words in this experiment were chosen from the words belonging to the five categories. However, the number of target words for the individual hypotheses is small. Several potential target words had to be excluded. They were likely to be known to the subjects, since they were listed in their glossaries (cf. 3.2.2.2.1.). The effectiveness of the different definition features is evaluated by the number of users who understood the target words after reading the definitions.

The first two hypotheses deal with definition features that are assumed to be effective for intermediate learners, and the next three with those that are assumed to be ineffective. The extra hypothesis deals with the entry lay-out rather than with a definition feature. The hypotheses and the selected target words are listed below.

Hypothesis 2.1.: Equivalents in definitions are effective for intermediate learners. They are most helpful if they are not embedded in a full-sentence structure.

The data from the main think-aloud study showed that the subjects looked up words successfully when their definitions contained equivalents as well as synonyms. However, the effectiveness of synonyms could not be tested in the experiment, because only one target word, the adverb *zunehmend*, was unknown to the subjects. Equivalents were more easily identified in the LGDaF definitions, because there they were not part of a compound sentence. Thus, more LGDaF users were expected to understand the meaning of the word when both the NDef and the LGDaF definition contain an equivalent. Four words which were, according to the glossaries, unknown to the subjects, could be used to test the hypothesis: *fluchtartig, schuften, Aufklärung, Riegel* (cf. 6.2.1.1.) Both the NDefs and LGDaF definitions of those four words contained an equivalent.

Hypothesis 2.2.: A rich definition context including redundancies and examples is effective for intermediate learners.

Unlike their LGDaF counterparts, the NDefs usually offer a rich definition context through the integration of redundancies and examples. Therefore, more NDefs users than LGDaF users were expected to understand the meaning of the words (cf.
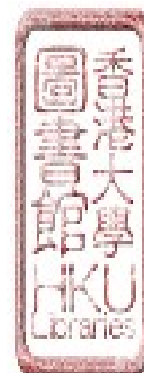
6.2.3.1.). The following target words were unknown to the subjects and could therefore be selected to test this hypothesis: *Indiz, Ritual, steuern.*

Hypothesis 2.3.: Noun definitions with an if-structure are ineffective for intermediate learners.

In the think-aloud study, several NDef users struggled with noun definitions that consisted of a conditional and a main clause. The difficulty lay in synthesising the information and transforming it into a noun equivalent that could be substituted for the unknown word in the reading context (cf. 6.2.2.1.). Therefore, when NDef noun definitions have an if-structure, NDef users were expected not to be significantly more successful in understanding the meanings of these nouns than the LGDaF users who faced different linguistic problems in the definitions. There were only two target nouns in this category: *Vorwurf,·Verstoß.*

Hypothesis 2.4.: Condensed text in definitions is ineffective for intermediate learners.

It was observed in the think-aloud study that LGDaF users had problems with text condensation. Especially in verb definitions, the text is often cluttered with abbreviations and brackets. Different typesets also obscure the definition text. Therefore, when an LGDaF definition has condensed text, more NDefs users than LGDaF users were expected to understand the meaning of the word. The following target words were selected: *irritieren, angeblich* (cf. 6.2.2.2.2.). Another verb, belonging to this category, *verzichten*, was already familiar to the subjects.

Hypothesis 2.5.: Derivational definitions are ineffective for intermediate learners.

In the LGDaF, derivations are usually explained by their root words. In the think-aloud study it became obvious that in all cases it was the root word that was unfamiliar to the subjects. Derivational definitions were avoided in the NDefs. Therefore it was assumed that more NDef users than LGDaF users would understand the meaning of the word, when a word is explained by derivational definition in the LGDaF. Three words were available to test this hypothesis: *Unterversorgung, unbeliebt, lostreten* (cf. 6.2.2.3.).
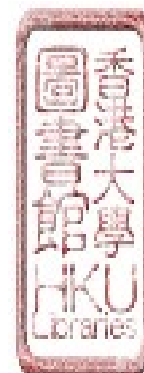
Hypothesis 2.6. (extra hypothesis): A clearly arranged entry format is effective for intermediate learners when less frequent senses of polysemous words have to be located.

One of the defining principles of the NDefs was to avoid the crowded entry format of the LGDaF entries and make it easier for learners to locate individual senses of polysemous words by listing every sense in a separate paragraph (cf. 5.3.). In the main think-aloud study, however, the relevant target words were not looked up by any of the subjects. The direct test method that was chosen for this experiment provided a chance of assessing the effectiveness of the NDefs' entry format. The participants were required to provide the Chinese equivalent of the selected target words on the test sheet. Therefore it was expected that this time the relevant target words would be looked up, and evidence for the hypothesis could be obtained. The two target words for the hypothesis are actually idiomatic phrases, *gut laufen* and *aus der Luft gegriffen*. The first phrase is the 13th sense in the entry for 'laufen', the second phrase is the 16th sense in the entry for 'Luft'. It was expected that most LGDaF users would not be able to locate the idiomatic phrases in the crowded entries. As the entry format of the NDefs makes it easier to locate specific word senses, more NDef users than LGDaF users were expected to understand the infrequent senses of polysemous words. Although the issue is that of locating the infrequent senses, in the quantitative research context only the result, i.e. understanding, could be measured.

Five words were included into the list of target words without representing a specific hypothesis in order to increase the number of target words for the overall comparison (*Kur, abbrechen, Eiweiß, nüchtern, zunehmend*). The NDefs of the first two words have two helpful factors each. As it would be impossible to determine which one of the two factors facilitated understanding, the words cannot be used to test one of the above hypotheses.

The NDef for the first word, the noun 'Kur', offers a rich definition context (Hypothesis 2.2.), as it contains a second example sentence. Although there was no evidence from the TAPs that the noun was understood because of its rich definition context, it could be expected that the NDef users would be more successful because of the example sentence. On the other hand, both the NDef and the LGDaF definition

contain an equivalent (Hypothesis 2.1.), and could therefore be expected to be understood equally well. The result might give some indication as to which factor is more powerful.

Exactly the same conditions apply to the verb 'abbrechen'. Both definitions contain an equivalent, which is in initial position in the LGDaF definition and might therefore be more easily identified. However, the NDef includes an example as well, thus offering a rich definition context.

In the target words for the think-aloud study, there was only one example of an encyclopedic definition, i.e. the LGDaF definition for the noun 'Eiweiß' (cf. 6.5.1.2.). There was not enough evidence that this definition type created difficulties for the learners, and therefore no hypothesis could be derived. However, one reason to include the noun was to find out whether the greater effectiveness of the non-encyclopedic NDef would become obvious in the results of a larger sample.

The adjective 'nüchtern' was the fourth word that was included without representing a specific hypothesis. There was a weak indication, based on the utterances of only one subject in the think-aloud study, that unknown vocabulary in the LGDaF definition impeded its understanding (cf. 6.5.1.2.). The results of the experiment might provide more support for this finding. However, if there is no significant difference between the results of NDef users and LGDaF users, this would support the argument that equivalents in definitions are useful. In both definition types, the equivalent (NDef: 'hat einen leeren Magen'; LGDaF: 'der Magen leer ist') consists of a short paraphrase and has the same position, i.e. is embedded in the definition sentence.

The definition of the adverb 'zunehmend' is followed by the synonym 'immer mehr'. It was observed in the think-aloud study that synonyms were effective for learners, and that LGDaF users could identify the synonyms more easily, and were therefore more successful (cf. 6.2.1.2.). However, of the four target words in the think-aloud study, three were familiar to the subjects in this study. Thus, the hypothesis that synonyms are effective for intermediate learners could not be tested with only one target word. Nevertheless, the adverb was included in order to gather more evidence for the hypothesis.

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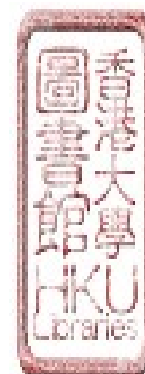
For greater transparency, the target words for the experiment are listed in Table 7.1. together with the hypotheses to be tested:

Table 7.1.: Target word and hypotheses for the experiment

No.	Hypothesis	Target words
1	The NDefs are more effective for intermediate learners than the LGDaF definitions.	all
1.1.	The NDefs are particularly effective for intermediate learners of low verbal ability.	
2.1	Equivalents in definitions are effective for intermediate learners. They are most helpful if they are not embedded in a full-sentence structure.	fluchtartig, schuften, Aufklärung, Riegel
2.2.	A rich definition context including redundancies and examples is effective for intermediate learners.	Indiz, Ritual, steuern
2.3.	Noun definitions with an if-structure are ineffective for intermediate learners.	Vorwurf, Verstoß
2.4.	Condensed text in definitions is ineffective for intermediate learners.	irritieren, angeblich
2.5.	Derivational definitions are ineffective for intermediate learners.	Unterversorgung, unbeliebt, lostreten
2.6.	Extra hypothesis: A clear entry format is especially beneficial for learners when less frequent senses of polysemous words have to be located	gut laufen, aus der Luft gegriffen
-	No specific hypothesis	Kur, abbrechen, Eiweiß, nüchtern, zunehmend

7.2. The results of the experiment

As explained in 3.2.2.4., a pretest was conducted in order to ascertain that the target words were indeed unknown by the subjects. The subjects received a checklist of 92 words, including the target words, and had to tick which words they knew. The results of the pretest showed that 3 of the 21 target words had to be eliminated. 83 percent of the subjects indicated on the checklist that they knew the word 'unbeliebt' and the phrase 'gut laufen', while 71 percent had ticked the noun 'Eiweiß' as known. The first two items were not part of the glossaries, but had obviously been introduced during the course. The third item 'Eiweiß' was in fact in the glossary, and had been overlooked in the preparation of the test instruments. Therefore, the number of target words which were included in the analysis was reduced to 18.
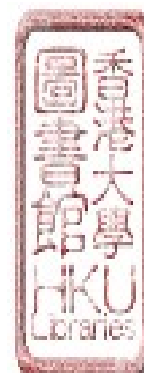
The methodology for the experiment was discussed in 3.2.2. The understanding of word meanings was measured by the supply-equivalent test (cf. 3.2.2.2.2.). For the individual subjects' count of words which were 'understood', the same procedure was followed as in the previous experiment: Every correct answer in the vocabulary test was checked in the pretest to discover whether the word was ticked as unknown, and in the right column on the test sheet, to discover whether the word was ticked as 'looked up'. Only if these conditions were fulfilled, was the word counted as 'understood' (cf. 3.1.2.5.1.).

As reported in 3.2.2.2.3., True/False reading comprehension tests were administered in order to ascertain that the subjects did indeed read the texts, instead of just looking up the words and supplying an equivalent in the vocabulary test. After the experiment, the True/False tests were scored and handed back to the subjects as a feed-back on the reading task. However, since reading comprehension scores were not a measure of the effectiveness of the different definition styles, the results are not reported here.

7.2.1. The overall comparison of NDefs and LGDaF results

In the overall comparison, Hypothesis 1 was tested first. The research question for Hypothesis 1 was the following:

Research question 1: Do subjects using the NDefs understand the meaning of significantly more target words than those using the LGDaF definitions?

The assessment of the supply-equivalent test and the statistical procedures used for the analysis were explained in 3.2.2.5. For the calculation of mean scores full points and half points were combined. There were originally 44 LGDaF users and 42 NDef users. For the statistical analysis, two subjects from the LGDaF condition were eliminated randomly by the computer, in order to have equal group sizes of 42, and 21 each for the comparison by definition and verbal ability level for Hypothesis 1.1. Means and standard deviations of the test results are presented in Table 7.2.
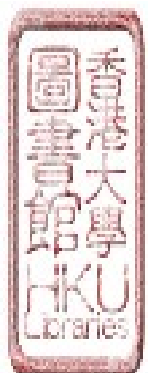
Table 7.2. Means and standard deviations of the supply-equivalent test by dictionary condition

	Mean	SD
LGDaF users (n = 42)	4.37	2.61
NDef users (n = 42)	5.95	3.52

18 points possible

The scores of the two groups were compared by t-test. The results show that the difference between the mean scores of the LGDaF users and the NDEf users is significant at the p < .05 level (p = .023). The research question can be answered positively: The NDef users understood the meaning of significantly more target words than the LGDaF users. The hypothesis that the NDefs are more effective for intermediate learners than the LGDaF definitions can be confirmed.

As explained in 7.1., it was hypothesised that the NDefs, being linguistically simpler, would give a special advantage to low verbal ability students. The following research question was asked for Hypothesis 1.1.:

> **Research question 1.1.:** Particularly within the low verbal ability group, do the subjects using the NDefs understand the meaning of significantly more target words than those using the LGDaF definitions?

Table 7.3. shows the results by dictionary conditions and verbal ability levels.

Table 7.3. Means and standard deviations of the supply-equivalent test by dictionary condition and verbal ability level

	LGDaF		NDefs		Overall	
	Mean	SD	Mean	SD	Mean	SD
High verbal ability	5.48	2.53	8.45	2.73	6.96	3.03
	(n = 21)		(n = 21)		(n = 42)	
Low verbal ability	3.26	2.17	3.45	2.2	3.36	2.21
	(n = 21)		(n = 21)		(n = 42)	
Overall	4.37	2.61	5.95	2.49	5.16	3.22
	(n = 42)		(n = 42)		(n = 84)	

18 points possible
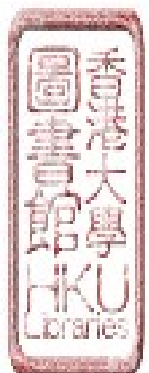
The mean scores of LGDaF and NDef users in the different verbal ability levels are illustrated in Figure 7.1.

Figure 7.1. Mean scores in supply-equivalent test
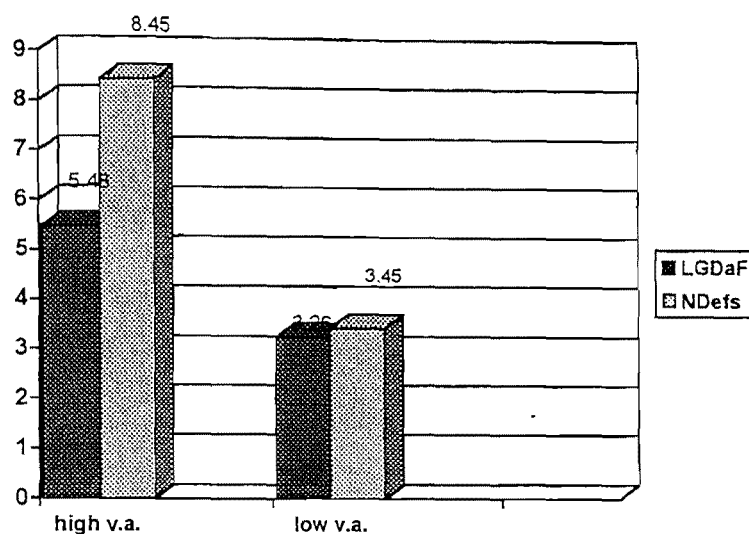
This comparison by ability levels revealed that the significant difference observed in the overall comparison was due to the high verbal ability subjects. One-way ANOVA indicated a significant difference between the four groups. The Scheffe post-hoc test showed that the difference between LGDaF users and NDef users in the high verbal ability group is highly significant at the $p < .01$ level ($p = .003$). By contrast, the difference between the low verbal ability subjects was not significant with $p = .996$. Therefore, the hypothesis that the low verbal ability students would especially benefit from the NDefs had to be rejected. These results will be further discussed in 7.3.1.

7.2.2. The effectiveness of different definition features

In order to confirm or reject the hypotheses concerning definition features, the results of LGDaF and NDef users for individual words were compared. In this comparison, no distinction was made between verbal ability levels, as this would have rendered groups too small for the statistical analysis.

For the analysis, the frequencies of correct answers, partial correct answers (half points), and incorrect answers were arranged by dictionary condition in Contingency

Tables and analysed by Chi-square (cf. 3.2.2.5.). The results for the individual words are reported below .

7.2.2.1. Hypothesis 2.1.: The effectiveness of equivalents

Equivalents appear in both the LGDaF definitions and the NDefs. As explained in 7.1., it was hypothesised that the LGDaF users could more easily identify the equivalents and would therefore be more successful in looking up the target words for this hypothesis.

> **Research question 2.1.:** Do significantly more LGDaF users than NDef users understand the meaning of the word, when both the NDef and the LGDaF definition contain an equivalent?

There were four target words to test this hypothesis.

Table 7.4. Results for *fluchtartig*

1. fluchtartig				(n = 63)
Group	Results			
Frequency	Correct	Half	Incorrect	Total
LGDaF	21	4	10	35
NDef	5	1	22	28
Total	26	5	32	63
DF	Chi-Sq.		Prob.	
2	15.5605		0.0004	

Table 7.5. Results for *schuften*

2. schuften				(n = 65)
Group	Results			
Frequency	Correct	Half	Incorrect	Total
LGDaF	24	4	5	33
NDef	12	9	11	32
Total	36	13	16	65
DF	Chi-Sq.		Prob.	
2	8.1569		0.0169	

Table 7.6. Results for *Aufklärung*

3. Aufklärung				(n = 58)
Group	Results			
Frequency	Correct	Half	Incorrect	Total
LGDaF	13	4	10	27
NDef	15	8	8	31
Total	28	12	18	58
DF	Chi-Sq.		Prob.	
2	1.4293		0.4894	
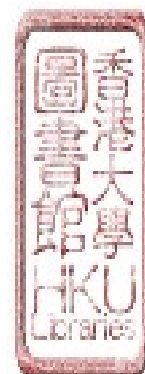
Table 7.7. Results for *Riegel*

4. Riegel Group	Results			(n = 51)
Frequency	Correct	Half	Incorrect	Total
LGDaF	6	2	18	26
NDef	12	1	12	25
Total	18	3	30	51
DF	Chi-Sq.		Prob.	
2	3.5151		0.1725	

The results in this category are contradictory. The first two target words were, as hypothesised, looked up significantly more successfully by the LGDaF users ($p < .01$ and $p < .05$ respectively). The results for the two nouns, however, showed no significant difference between LGDaF and NDef users. These results are discussed in more detail in 7.3.2.1., where it is argued that the hypothesis has to be rejected, and a modified hypothesis put forward.

7.2.2.2. Hypothesis 2.2.: The rich definition context

Research question 2.2. Do significantly more NDefs users than LGDaF users understand the meaning of the word, when the NDef offers a rich definition context through redundancies and examples, while the LGDaF definition does not?

It was expected that the NDef users, benefiting from the rich definition context, would achieve significantly higher scores than the LGDaF users for the target words 'Indiz', 'Ritual', 'steuern',

Table 7.8. Results for *Indiz*

1. Indiz Group	Results			(n = 55)
Frequency	Correct	Half	Incorrect	Total
LGDaF	3	0	25	28
NDef	10	3	14	27
Total	13	3	39	55
DF	Chi-Sq.		Prob.	
2	9.8569		0.0072	

Table 7.9. Results for *Ritual*

2. Ritual Group	Results			(n = 50)
Frequency	Correct	Half	Incorrect	Total
LGDaF	12	1	15	28
NDef	16	2	4	22
Total	28	3	19	50
DF	Chi-Sq.		Prob.	
2	6.6489		0.0360	
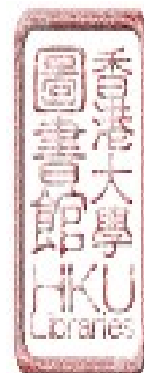
Table 7.10. Results for *steuern*

3. steuern				(n = 51)
Group	Results			
Frequency	Correct	Half	Incorrect	Total
LGDaF	3	0	25	28
NDef	10	4	9	23
Total	13	4	34	51
DF	Chi-Sq.		Prob.	
2	14.952		0.0006	

As can be seen from the results, the difference between NDef than LGDaF users was highly significant for the words 'Indiz' and 'steuern', with a probability level of $p < .01$. The noun 'Ritual' was also understood by a significantly larger number of NDef users with a significance level of $p < .05$. The research question can be answered positively, and the hypothesis that a rich definition context facilitates the understanding of the word meaning can be confirmed.

7.2.2.3. Hypothesis 2.3.: The if-structure in noun definitions

It was hypothesised that the NDef users would struggle to derive the meanings of nouns when they are defined in sentences with the if-structure. On the other hand, the LGDaF definitions for the same nouns contain linguistic difficulties (cf. 6.2.2.2.1.). It was therefore expected that the difference between NDef and LGDaF users would not be significant.

> **Research question 2.3.:** Is there a significant difference between NDef and LGDaF users, when the NDef noun definition has an if-structure?

Table 7.11. Results for *Vorwurf*

1. Vorwurf				(n = 73)
Group	Results			
Frequency	Correct	Half	Incorrect	Total
LGDaF	10	2	25	37
NDef	15	0	21	36
Total	25	2	46	73
DF	Chi-Sq.		Prob.	
2	3.3348		0.1887	

Table 7.12. Results for *Verstoß*

2. Verstoß				(n = 58)
Group	Results			
Frequency	Correct	Half	Incorrect	Total
LGDaF	12	1	20	33
NDef	18	7	0	25
Total	30	8	20	58
DF	Chi-Sq.		Prob.	
2	25.0736		< .0001	
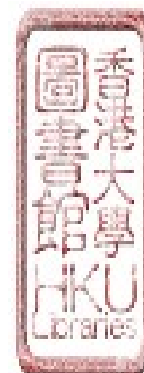
The results are contradictory and the hypothesis has to be rejected. While the NDef users were indeed not significantly more successful in understanding the noun 'Vorwurf', a significantly higher number understood the definition of the second noun, despite the fact that it has an if-structure. This finding will be further discussed in 7.3.2.3.

7.2.2.4. Hypothesis 2.4.: Text condensation

Research question 2.4.: Do significantly more NDef users than LGDaF users understand the meaning of the word, when the LGDaF definition has condensed text?

The hypothesis was tested with the words: 'irritieren', 'angeblich'.

Table 7.13. Results for *irritieren*

1. irritieren				(n = 57)
Group	Results			
Frequency	Correct	Half	Incorrect	Total
LGDaF	9	6	18	33
NDef	7	3	14	24
Total	16	9	32	57
DF	Chi-Sq.		Prob.	
2	0.3374		0.8448	

Table 7.14. Results for *angeblich*

2. angeblich				(n = 63)
Group	Results			
Frequency	Correct	Half	Incorrect	Total
LGDaF	6	10	18	34
NDef	13	7	9	29
Total	19	17	27	63
DF	Chi-Sq.		Prob.	
2	5.7477		0.0565	

The results for both words show that there is no significant difference between LGDaF and NDef subjects. The hypothesis that condensed text in a dictionary entry impedes understanding is therefore rejected.

7.2.2.5. Hypothesis 2.5.: Derivational definitions

Research question 2.5.: Do significantly more NDef users than LGDaF users understand the meaning of the word, when the LGDaF definition is derivational?

As one target word, the adjective 'unbeliebt', had to be eliminated (cf. 7.2.), only two words were left to test the hypothesis that derivational definitions are unsuitable for
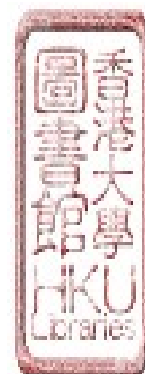
intermediate learners. It has to be noted, however, that particularly the LGDaF definition of the second target word, 'lostreten', has other problematic features as well, so that the failure of subjects to understand the word meaning cannot entirely be attributed to the derivational definition.

Table 7.15. Results for *Unterversorgung*

Unterversorgung				(n = 52)
Group	Results			
Frequency	Correct	Half	Incorrect	Total
LGDaF	0	6	20	26
NDef	3	17	6	26
Total	3	23	26	52
DF	Chi-Sq.		Prob.	
2	15.799		0.0004	

The number of NDefs subjects looking up the noun successfully is significantly higher than the number of LGDaF subjects. Although the majority of NDef subjects achieved only half points, it is argued that the highly significant results support the hypothesis. This argument, as well as the reason for assigning only half points to many subjects, are discussed in 7.3.2.5.

There is also a high significance level for the verb 'lostreten': significantly more NDef subjects understood the meaning.

Table 7.16. Results for *lostreten*

lostreten			(n = 47)
Frequency	Correct	Incorrect	Total
LGDaF	0	26	26
NDef	12	9	21
Total	12	35	47
DF	Chi-Sq.	Prob.	
2	19.9510	< .0001	

As mentioned above, the results for the verb 'lostreten' support the hypothesis only to a certain extent because other factors might have influenced them. These factors are also discussed in 7.3.2.5.

7.2.2.6. Hypothesis 2.6.: Entry format and polysemous words

This hypothesis assumes that the clearly arranged entry format of the NDefs would facilitate locating the appropriate meaning of polysemous words more then the format of the LGDaF entries. Unfortunately, as was explained in 7.2., one of the two target words, the idiomatic phrase 'gut laufen', was already familiar to the subjects.
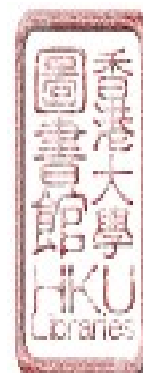
Therefore, there was no valid basis to test the hypothesis. However, the results for the remaining target word are presented below.

Research question 2.6.: Do significantly more NDef users than LGDaF users understand the infrequent senses of polysemous words?

Table 7.17. Results for *aus der Luft gegriffen*

aus der Luft gegriffen				(n = 26)
Group	Results			
Frequency	Correct	Half	Incorrect	Total
LGDaF	3	1	8	12
NDef	5	0	9	14
Total	8	1	17	26
DF	Chi-Sq.		Prob.	
2	1.4133		0.4933	

As Table 7.17 illustrates, the success rate was low and there is no significant difference between the LGDaF and NDef users. Also, while all other target words were looked up by at least 47 subjects, the sample for this word is only 26. These findings are further discussed in 7.3.2.6.

7.2.2.7. Target words not representing a specific hypothesis

It was explained in 7.1. that five words were included without representing a special hypothesis. Of these, the noun 'Eiweiß' had to be eliminated as it was familiar to the subjects. The results for the other four words are presented below and briefly discussed, as some give indirect support to one of the above hypotheses.

Table 7.18. Results for *Kur*

Kur				(n= 56)
Group	Results			
Frequency	Correct	Half	Incorrect	Total
LGDaF	6	3	15	24
Ndef	17	5	10	32
Total	23	8	25	56
DF	Chi-Sq.		Prob.	
2	5.7351		0.0568	

Table 7.19. Results for *abbrechen*

abbrechen				(n = 54)
Group	Results			
Frequency	Correct	Half	Incorrect	Total
LGDaF	7	0	18	25
Ndef	14	6	9	29
Total	21	6	27	54
DF	Chi-Sq.		Prob.	
2	11.0979		0.0039	
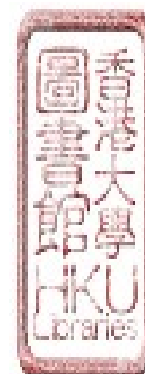
In 7.1., it was already explained that the NDefs of 'abbrechen' and 'Kur' provide a rich definition context. On the other hand, both the NDefs and the LGDaF definitions contain an equivalent ('Behandlung' for the noun 'Kur', 'beenden' for the verb 'abbrechen') which was considered to be easier to identify in the LGDaF definition structure. Indeed, in the scoring of the subjects' vocabulary sheets, it became obvious that most subjects with correct answers had supplied the Chinese equivalent for the German equivalent in the definition of 'Kur'.

Despite the hypothesis that equivalents can be more easily identified in the structure of the LGDaF definition, the NDef subjects scored higher on both target words; for the noun 'Kur' the significance level of < .05 was just missed; for the verb 'abbrechen' the results was highly significant with p < .01. The higher success rate of the NDef subjects suggests that examples in combination with equivalents are more effective than equivalents on their own. This gives further support to the effectiveness of rich definition contexts.

The general effectiveness of equivalents in definitions can be illustrated by the results for the adjective 'nüchtern'. As was explained in 7.1., both definition types contain a short paraphrase which can be used as an equivalent. This paraphrase has the same position in both the LGDaF definition and the NDef, i.e. is embedded in the definition sentence. As can be seen in Table 7.20, the results are not significantly different for the two definition types (p = 0.1348).

Table 7.20. Results for *nüchtern*

nüchtern Group Frequency	Results Correct	Half	Incorrect	(n = 75) Total
LGDaF	24	1	12	37
NDef	23	6	9	38
Total	47	7	21	75
DF 2	Chi-Sq. 4.0087		Prob. 0.1348	

It becomes clear through this example that Hypothesis 2.1. does not apply when the equivalent is in the same position in the LGDaF definition and the NDef. This point is further discussed in 7.3.2.1.
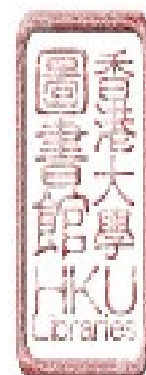
The adverb 'zunehmend' was the only target that offered a synonym after the definition. It was expected that the LGDaF users could identify this synonym more easily. In the NDef, the synonym, ' ≈ immer mehr', is preceded by a metalinguistic explanation about how the adverb is used, while the LGDaF definition consists only of the synonym. It was expected that the preceding explanation would distract the NDef subjects from the more helpful synonym. However, significantly more NDef users understood the meaning of the adverb (p = 0.014). Therefore, there is no further evidence for the hypothesis that synonyms are more helpful in the LGDaF entry structure (cf. 6.2.1.2.).

7.3. Discussion

The results for the target words not representing a specific hypothesis were discussed in the previous section. The results for the different hypotheses are discussed in the same order as presented above.

7.3.1. The overall comparison of the effectiveness of the two dictionary conditions

The hypothesis that the NDefs are more effective for intermediate learners was confirmed by the finding that overall the NDef subjects understood significantly more words than the LGDaF users. As explained in 3.2.2.4., a small pilot study with ten subjects was carried out two months before the experiment. The results of the pilot study were consistent with those of the experiment, as the five NDef users had a mean score of 8.6 (SD = 2.72), while the five LGDaF users achieved a mean score of 5 (SD = 2.2). The means of the Hong Kong subjects in the pilot study were at the level of those of the high verbal ability group in this experiment (cf. Table 7.3.). This fact is not surprising, as the Hong Kong subjects had received about 100 hours more instruction, and their German instruction had stretched over a period of 4 semesters, rather than being compressed into one semester (cf. 3.2.2.3). The pilot study fulfilled its purpose of triangulation, showing that there was no vast difference in the achievements of the two different target groups. In other words, the results of the main experiment are not due to specific variables of the Shanghai subjects.

The findings provide empirical evidence that word definitions in the NDef style are better understood by intermediate learners than the LGDaF definitions. This does not
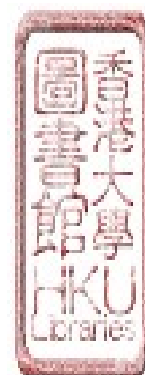
only apply to intermediate learners of German in Hong Kong, as shown in the think-aloud study and the pilot study, but also to mainland Chinese learners.

Hypothesis 1.1. had to be rejected. There was no significant difference between NDef and LGDaf users in the low verbal ability group, although it was assumed that weaker students would especially benefit from the easier definitions. Two possible explanations for this finding can be offered: First, the NDef users with low verbal ability looked up the lowest number of words, as Table 7.20 illustrates:

Table 7.21.: Means and standard deviations of number of words looked up by dictionary condition and verbal ability level

Group	LGDaF/high v.a. (n = 21)	NDefs/high v.a. (n = 21)	LGDaF/low v.a. (n = 21)	NDefs/low v.a. (n = 21)
Means and SDs	13.29 SD = 3.77	14.76 SD = 2.49	12.05 SD = 4.19	9.62 SD = 4.18

One-way ANOVA and the Scheffe post-hoc test showed that the low verbal ability NDef users looked up significantly fewer words than both high verbal ability groups (LGDaF: $p = .006$; NDef: $p = .001$), and the low verbal ability LGDaF users looked up significantly fewer words than the high verbal NDef users ($p = .015$). Although the difference between the low verbal ability groups was not significant ($p = .075$), the low verbal ability NDef users looked up on average more than two words fewer than the low verbal ability LGDaF users, and therefore could not be expected to score significantly higher than the LGDaF subjects on the supply-equivalent test.

Overall, the low verbal ability subjects looked up significantly fewer words than the high verbal ability subjects at $p = .003$, a finding that was also made by Knight (1994: 293). As a consequence, the number of words the subjects in the low verbal ability groups understood through the dictionary definitions was also diminished. This look-up behaviour is similar to that observed in the first experiment: there, the low verbal ability students in the monolingual dictionary condition also looked up fewer words than the other groups (cf. 4.2.3.1., Table 4.14.). One reason for this look-up behaviour may be the weaker students' lower motivation. As was explained in 3.2.2.3., several Shanghai subjects had already been admitted to universities in Germany and were not driven by the ambition to do well in their course at Tongji University. In general, weaker students may be less confident with monolingual dictionaries, and less inquisitive about the foreign language.

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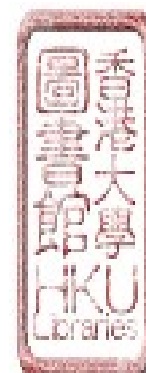
The second possible explanation for the lack of a significant difference between NDef and LGDaF subjects within the low verbal ability group is that intermediate learners of low verbal ability are not yet capable of using any type of monolingual dictionary. Considering especially the learning background of the Shanghai subjects, the limited time in the intensive course format may create a gap between fast learners and those who need more time to acquire a foreign language. These slower learners may not yet have reached the intermediate level, at which, as assumed in this thesis, it is possible to cope at least with the linguistically less demanding NDefs. This explanation is consistent with Knight's finding that low verbal ability students particularly benefit from the bilingual dictionary (1994: 293, cf. 2.6.2.1.).

In general it has to be noted that the test results in this experiment were rather low, even for the high verbal ability students. In order to illustrate this point, the test scores were converted into percentages and compared with the results of the LGDaF users in the first experiment (cf. 4.2.3.1., Table 4.13.).

Table 7.22: Percentages of words understood in comparison with the results of the first experiment

| | First experiment | | Second experiment |
	Supply-definition	Select-definition	Supply-equivalent
LGDaF			
High verbal ability	11.9%	26.8%	30.4%
Low verbal ability	8.7%	19%	18.1%
NDef			
High verbal ability	-	-	46.9%
Low verbal ability	-	-	19.2%

The comparison shows that in the LGDaF condition, the Shanghai subjects achieved approximately the same results as the subjects in the first experiment in the easier test type, the select-definition test. In the NDef condition, the high verbal ability students scored much higher, but the low verbal ability students had almost identical results to those in the select-definition test. This finding is remarkable insofar, as the test conditions were entirely different. In the first experiment, incidental vocabulary learning was measured, which means that the subjects' attention was not drawn to the target words. The results reflect what the subjects remembered after having finished reading, and without being able to refer back to the text or the definitions. By contrast, in the second experiment the subjects did their supply-equivalent test with

the support of the reading test and, more importantly, the definitions in front of them. In other words, the subjects did not have to rely on their memories, and could have been expected to achieve higher results. Despite these advantages, not even the high verbal ability subjects using the more user-friendly NDefs understood the meaning of half of the target words. On one hand, this finding supports the above argument that the learners struggle to reach the intermediate level in the limited time period of one semester, and their proficiency is, despite the similar number of teaching hours, lower than that of the learners who studied for four semesters. On the other hand, the finding indicates that the subjects in this research may be just reaching the threshold level for the use of monolingual dictionaries. Considering the results of this and the previous experiment as indicated in Table 7.21., and given the fact that in Knight's study the bilingual dictionary users of both verbal ability levels achieved more than 50 percent in the select-definition test (cf. 1994: 293, Table 4.13), the conclusion can be drawn that learners at the intermediate proficiency level are either just on, or below the threshold of being capable of using monolingual dictionaries. Looking at the figures in Table 7.21. again, this argument can be further qualified: High verbal ability students are on the threshold of being able to use a monolingual dictionary in the style of the NDefs, which is linguistically not as difficult as the LGDaF, while the weaker students at this proficiency level are not yet ready to use even this more user-friendly type of monolingual dictionary.

7.3.2. The analysis of individual words

Only five different hypotheses concerning individual definition features could be tested, as only one target word was available for Hypothesis 2.6. Before the discussion of the findings, however, it has to be pointed out that the hypotheses which were confirmed or rejected in the framework of this research need further testing. The main reason for this is that other factors than the one being tested may have influenced the results, either factors within the definition, or in the dictionary entry, or in the reading context. Within the definition, another helpful factor, such as the restricted defining vocabulary in the NDefs, may have contributed equally to the understanding of the word meaning. Within the entry, learners might for instance have picked up an example which illustrates the word meaning better then the feature that is hypothesised to be helpful. Contextual factors may also play an important role, as some word meanings may have been to a certain extent inferred from the context
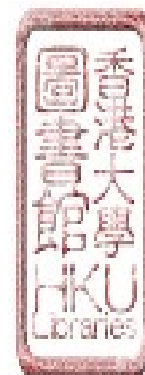
before the learners turned to the dictionary for confirmation. Therefore, what is perceived as a helpful feature in one definition and one reading context may not be helpful in another environment. For most hypotheses which were tested in this study, the effectiveness of the features was not just derived from theoretical considerations, but previously observed in the think-aloud study. Nevertheless, as the context was the same in both studies, the evidence is so far limited to target words if this research. Further research should test the hypotheses in different reading contexts, as well as manipulate the definitions so that the factors to be tested can be further isolated.

In the following sections, the results for the different hypotheses are discussed.

7.3.2.1. The effectiveness of equivalents as part of the definition

It was observed in the think-aloud study that LGDaF definitions which offer an equivalent are better understood than their NDef counterparts where the same equivalent is embedded in a full sentence (cf. 6.2.1.1.). However, as the results in this experiment show, this is not generally the case. For two of the target words, the LGDaF users scored, as hypothesised, significantly higher, while for the other two target words they did not. When the definitions were compared again in order to explain this outcome, it became clear that the hypothesis had to be rejected, and a modified hypothesis had to be put forward. The difference in the results for the target words can be explained by the different structures of the NDefs. The two target words which were looked up significantly more successfully by the LGDaF users are an adverb and a verb ('fluchtartig', 'schuften'). The NDefs consist of compound sentences with the if-structure. In these sentences, the equivalents appear as part of the main clause, which itself is preceded by the conditional clause. Therefore, the relevant information has to be identified first and then extracted from the definition. The LGDaF definitions, on the other hand, either just consist of the equivalent, as the definition of 'schuften', or offer the equivalent in initial position, as the definition of 'fluchtartig'[56].

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[56] The definitions are listed in 6.2.1.1., Table 6.5.

The other two target words were nouns ('Aufklärung', 'Riegel'). The NDefs of both nouns are equations in which the unknown word and the equivalent are linked by the copula:

NDeF: Aufklärung sind Informationen über Probleme oder unklare Situationen
NDef: Ein Riegel von etwas, z.B. Schokolade, ist ein langes, schmales Stück

This structure does not distinguish the definitions fundamentally from the LGDaF definitions where just the copulas are missing:

LGDaF: Aufklärung Informationen über bestimmte Probleme oder Situationen
LGDaF: Riegel ein schmales, langes Stück Schokolade

The copula in the NDefs clearly does not distract the users from the main information as the more complicated structure of the first two definitions does. The equivalent is easy to identify in the equation structure, especially in the definition of 'Aufklärung', where the equivalent is only preceded by the copula 'sind'. As the two definition types offer roughly the same conditions, the results of the users are not significantly different.

For the reasons explained above, the original hypothesis was rejected, and the following new hypothesis was put forward:

New hypothesis: An equivalent in initial position is more effective than an equivalent that is embedded in the second part of a compound sentence.

In contrast to the original hypothesis, the new one describes the most effective position of equivalents more precisely: They can be part of a full-sentence structure, as long as they appear at the beginning of the definition, instead of appearing in the second part of a compound sentence. This hypothesis was confirmed by the results for the target words 'fluchtartig', 'schuften'. The results confirm the argument in 6.2.1.1., that equivalents in definitions are effective in general, if they can be identified by the learners. As they can be best identified in initial position, a definition offering an equivalent in initial position is most effective for intermediate learners. The initial position of the equivalent complies with the learners' inclination to focus on information at the beginning of the dictionary entry (cf. 2.6.2.2.). The equivalent itself is a very effective definition feature for learners. As already argued in 6.2.1.2., the most obvious reason is that learners are used to being supplied with equivalents by their bilingual dictionaries. There is evidence from other studies that learners search

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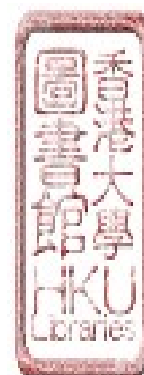
definitions for equivalents to the extent that they accept unsuitable ones (cf. 2.6.2.1., Müllich 1990: 179 - 180). Only if an equivalent is found and translated back to the mother tongue, do the learners feel that they have understood the unknown word. This means that the monolingual dictionary is treated like a bilingual one (ibid.: 489). If an equivalent is offered in the second part of a compound sentence, it should be somehow highlighted for the learner, for instance by underlining it. Hausmann & Gorbach (1989: 47, cf. 2.5.3.4.) pointed out that crucial segments cannot easily be identified in written full-sentence definitions, while they would be emphasised by intonation in spoken explanations.

In summary, it has to be noted that the NDefs cannot be regarded as invariably more effective. If a word can be explained by stating an equivalent, the LGDaF's way of presenting the equivalent is more effective.

7.3.2.2. The rich definition context

The hypothesis that a rich definition context facilitates the understanding of the word meaning found strong support in the statistical analysis, as the NDefs of all three target words were understood by significantly more NDef users than LGDaF users (cf. 7.2.2.2). The same result was obtained in the think-aloud study, where none of the LGDaF subjects understood any of the three target words, while the NDef subjects were more successful (cf. Table 6.9.). In 6.2.1.3., it was explained in detail how the NDefs for these words, through the integration of redundancies and examples, make the concept of the unknown words imageable, while the LGDaF definitions offer a poor definition context. It was argued that examples should be included in the definition instead of being listed behind it. If the examples follow the definitions, as in the LGDaF, the learners' tendency of not reading beyond the first definition might prevent them from noticing the examples. That the integration of the example into the definition is more helpful was proven by the results for the target verb *steuern*. For both the literal as well as the non-literal meanings, the same examples that follow the LGDaF definitions (meaning 1: *Auto*; meaning 2: *Gespräch*) are integrated into the NDefs. This factor certainly contributed to the significantly higher success rate of the NDef users.

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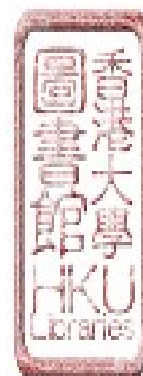
The results add further support to Müllich's (1990: 491) and Kostrzewa's (1991: 103) observations, that their subjects benefited from redundancies and examples contained within definitions.

As mentioned in 7.3.2., the conclusion that a rich definition context, created by redundancies and examples, facilitates understanding is still preliminary. More factors play a role in the success by the NDef users and the lack of success by the LGDaF users, as illustrated in Table 6.9. and explained in 6.2.1.3. The LGDaF definitions for the three target words contain a number of linguistic difficulties, mainly unknown vocabulary, that were avoided in the NDefs. Therefore, in further research, the effectiveness of a rich definition context should be tested by comparing definitions of the same linguistic difficulty level with and without redundancies and examples.

In light of the significantly higher number of NDef users looking up the relevant target words successfully in this experiment, and the observation in the previous think-aloud study of how redundancies and examples made word concepts imageable, the conclusion can be drawn, however, that a rich definition context is effective for intermediate learners.

7.3.2.3. The if-structure in noun definitions

The results for the target nouns 'Vorwurf' and 'Verstoß' were inconclusive. It was expected that the NDef users would experience problems with the if-structure of the definitions, and therefore would not be significantly more successful than the LGDaF users who have to deal with linguistic problems (cf. 6.2.2.2.1.). However, only for the noun 'Vorwurf' were the results not significantly different, while for the noun 'Verstoß' the success rate of the NDef users was highly significant. Therefore, the NDefs subjects' failure to understand the meaning of the first noun cannot be attributed to the if-structure in the definition, and the hypothesis has to be rejected.

Nevertheless, the question remains why the second noun was looked up much more successfully by the NDef subjects than the first one, despite the fact that there are similar conditions for both words: They are of the same word class, and represent the part of speech that is the easiest to learn (Ellis & Beaton 1995: 113), both have an

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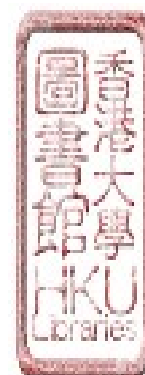
abstract meaning, and both have similar contextual conditions[57]. One possible explanation is that the NDef of 'Vorwurf' is syntactically more complex with two subordinate clauses and different pronouns. The fact that three different forms of the pronouns *jemand, er* (*jemandem, ihm, er*) refer to the object of the definition sentence may be confusing for learners. By contrast, the NDef of 'Verstoß' only contains the two pronouns in the nominative case for the subject of the definition sentence (*jemand, er*). As discussed in 5.4., the full-sentence definitions require a lot of referring back by pronouns, which creates a certain stylistic clumsiness. Apart from the clumsiness, the frequent appearance of pronouns in different cases might have a confusing effect on learners. However, this explanation is not based on empirical evidence, and further research is needed to establish whether this new hypothesis can be substantiated.

7.3.2.4. Text condensation

The finding that text condensation could not be proven as a factor that impedes the understanding of LGDaF definitions came as a surprise for the following reasons. Firstly, there was one clear case in the small-scale think-aloud study when a subject did not understand the meaning of 'verzichten' because of the condensed text in the definition. Unfortunately, the verb 'verzichten' could not be included as a target word in the experiment, because it was already familiar to the subjects. Secondly, from a pedagogical point of view, it seemed obvious that the crowded LGDaF definitions were more problematic. In addition to the condensation devices such as abbreviations and brackets that occur in the LGDaF definitions of the two target words ('irritieren', 'angeblich'), the language is also vague through the use of the same pronouns for different referents (cf. 6.2.2.2.2.). Therefore it was difficult to find explanations why the NDefs, in which these features were avoided, did not yield a higher success rate.

For the target word 'angeblich' the reason could lie in the NDef: the adverb is, unlike the definitions of the other target words, explained by "discussing the word.. rather than by encoding it in a typical phrase.." (Hanks 1987: 129). This strategy was

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[57] Neither word is particularly salient through frequent occurrence in the text, for instance, or surrounded by clear contextual cues which help to infer the meaning (Paribakht & Wesche 1999: 199).

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chosen in COBUILD whenever the selection preferences of a word are too general as to encode it in a typical context. The same strategy is used in the description of figurative or idiomatic senses of words (cf. 5.2.2.3.; Hanks 1987: 134)[58]. This discussion of how a word is used instead of the statement of what it means might have been totally unfamiliar to the subjects, as it does not appear in traditional dictionaries. Maybe this unfamiliar type of definition offsets the advantages the NDef was assumed to have in comparison with the LGDaF definition of 'angeblich'. However, the percentage of NDefs users who understood the adverb was higher than that of LGDaF users, and the significance level was only just missed with p = .0565 (cf. Table 7.14.).

In case of the verb 'irritieren', the percentage of NDef users who did not understand the meaning of the verb is even higher than that of the LGDaF users, while the percentage of subjects who understood the meaning is roughly the same. The only possible explanation is that the LGDaF subjects ignored all abbreviations and picked out from the LGDaF definition '...macht ...unsicher od. nervös..' as equivalent for the verb. In fact, the correct answers given in the supply-equivalent test by the LGDaF subjects support this explanation: They consist of the Chinese equivalent of exactly that phrase 'to make unsure or nervous'. When the NDef for 'irritieren' was reanalysed, it became also clear that the definition sentence had to be completely transformed by the subjects in order to extract the meaning 'to make someone unsure or nervous'. In order to avoid confusing pronouns, the NDef had been phrased in the following way:

> **NDef: irritieren** Wenn mich eine Person oder Sache irritiert, werde ich unsicher, nervös oder verwirrt [When a person or a thing irritates me, I become unsure, nervous or confused][59]

The low success rate of the NDef users provides evidence that the phrasing in the definition is not useful, as it presents the object of the action as the subject of the main clause.

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[58] In COBUILD, this type typically has the format 'If you say..you mean'. In the definition of *angeblich*, in order to avoid confusing pronouns, the format was: *If I say*.
[59] The German verb 'irritieren' is not a full equivalent to the English verb 'irritate', as it is used more in the sense of 'to make nervous' rather than 'to make angry'.
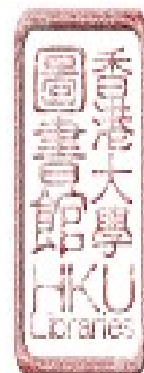
In other words, the verb 'irritieren' was not, as expected, a suitable target word for the present hypothesis. This finding illustrates two facts: firstly, the factor of an available equivalent in a definition seems to be more powerful than factors that might impede understanding, such as text condensation. The availability of an equivalent enables learners to ignore problems in the remaining definition text. This was observed in the think-aloud study: Once the subjects identified an equivalent in a definition, they tended not even to read the definition text further (cf. 6.2.1.1., Example 1). Secondly, the necessity of empirical research into dictionary use is highlighted. While pedagogical judgement anticipated that the LGDaF definition of 'irritieren' was more difficult to understand, in reality the learners dealt with the definition in an unexpected way: they ignored the feature which was expected to create problems and picked up another feature which was helpful. In the same way, the results indicated a weakness in the NDef, which was not anticipated eiher by the compiler or the judges of the NDefs. This illustrates the limitations of the metalexicographic discussion (cf. 2.4. and 2.5.), in which lexicographic recommendations are based on pedagogical intuitions rather than on empirical evidence.

The hypothesis of text condensation impeding understanding had to be rejected in this research context because of a lack of evidence. However, this is due to the research design, in which one of two target words turned out not to be suitable for this hypothesis. As there is some evidence already from Neubach & Cohen (1988: 7) and the small-scale think-aloud study in this thesis (cf. 4.3.2.3.) that learners do struggle with crowded entries and condensation devices, further research needs to focus on the problem of condensed text in dictionary entries in order to confirm that it is problematic for learners.

7.3.2.5. Derivational definitions
Only two target words were available to test the hypothesis that derivational definitions are unsuitable for intermediate learners. The evidence they provided in support for the hypothesis is limited insofar as the LGDaF definitions of both words contain other difficult features in addition to that of defining the unknown word by its root word (cf. Table 6.13). Equally, the NDefs offer other helpful features in addition to being not derivational.
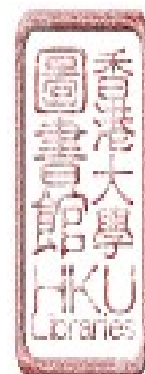
The NDef of 'Unterversorgung' offers the advantage of a rich definition context through the integration of an example (cf. Table 6.9.). In addition, unknown words that appear in the LGDaF definition, were avoided in the NDef. Therefore, the results cannot entirely be attributed to the non-derivational definition. However, the root word 'versorgt' was one of the lexical items which was not understood by a subject in the think-aloud study (LG6/ cf. 6.2.2.3.), and certainly the most crucial one for the understanding of the word meaning. Therefore it can be argued that the avoidance of the derivational definition was an important factor for the significantly higher success rate of the NDef subjects.

Finding the meaning of the noun 'Unterversorgung' entails an additional difficulty for learners, since the noun has no entry on its own, but is listed under the adjective 'unterversorgt'. The steps learners have to take before arriving at the meaning of the noun were described in 6.2.2.3. That it is not so straightforward to derive the noun meaning from the adjective, even if the adjective was understood perfectly well, was illustrated by the results in this experiment: 65.38 percent of the NDef users and 23.08 percent of the LGDaF users received only half a point, because their answer was only partially correct. Although these subjects understood the semantic concept of the word, they had supplied the wrong part of speech (the verb form 'is lacking' instead of the noun 'lack'). In the LGDaF most derived nouns are listed under their root words. The results for 'Unterversorgung' indicate that this space-saving method is unhelpful for intermediate learners.

The verb 'lostreten' is defined in the LGDaF by derivational definition, while the NDef is non-derivational. The NDef users had also a great advantage by being given, in addition to the literal meaning of the word, the non-literal meaning, which was the meaning required in the reading context (cf. 5.3.). The definition for the target meaning also contained equivalents for the target word, as well as an example including the noun 'Kampagne' which also appeared, in a compound, in the reading text. The fact that the NDef users were significantly more successful in looking up the verb may be due to factors other than the non-derivational definition.

However, the think-aloud study revealed that two subjects failed to understand the LGDaF definition because of the root word 'Treten' (cf. 6.2.2.3, 6.2.2.4.), indicating
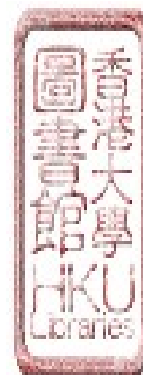
that the derivational definition is indeed one factor which prevents the understanding of the word. Therefore, the significant lack of success by the LGDaF users in this experiment is regarded to a certain extent as evidence that derivational definitions are unsuitable for learners.

The low results achieved by the LGDaF subjects for the verb 'lostreten' highlight the LGDaF definition's lack of suitability for intermediate learners. Apart from the fact that the derivational definition is not helpful for learners, a sense of the verb that seems to be more frequent than the one offered in the LGDaF, is not presented. This shows the drawbacks of compiling a dictionary without a corpus basis. In addition, the defining vocabulary (for instance: 'in Bewegung setzen') is beyond the lexical knowledge of intermediate learners.

In summary, the results for the two target words, although influenced by other factors as well, are regarded as support for the hypothesis that derivational definitions are unsuitable for intermediate learners. However, because of the limitations of this research design, the hypothesis should be confirmed by further research in which there are fewer factors, and in which more target words are tested.

7.3.2.6. The entry format

The extra hypothesis could not be tested because one of the two target words was already familiar to the subjects. However, the fact that far fewer subjects looked up the target phrase 'aus der Luft gegriffen' than other target words shall be briefly discussed. This finding is consistent with the results in the first experiment, where none of the subjects in the monolingual dictionary condition looked up the phrase. One possible explanation for this is that the subjects did not know under which headword they should look up the phrase. This is an inherent difficulty with idiomatic phrases (Scholfield 1982: 186/7). The fact that only eight of 26 subjects from both dictionary conditions answered correctly in the supply-equivalent test suggests that most learners employed the same look-up behaviour which was observed in several previous studies as well as in the think-aloud studies in this research, namely not reading beyond the first meaning in a dictionary entry (cf. 2.6.2.2., 4.3.2.2., 6.2.2.5.1.). As idiomatic expressions are usually listed towards the end of the entries of polysemous words, it is unlikely that learners scan the entry until they find the

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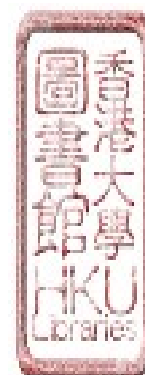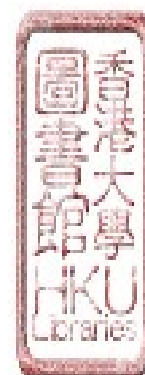
appropriate sense. This might be due to a lack of dictionary training, as well as to a certain insecurity intermediate learners feel with monolingual dictionaries. As mentioned in 7.1., the idiomatic phrase was the 16th of 27 meanings in the entry of 'Luft'. The task for learners to scan a large number of the foreign language definitions in order to find the phrase is certainly daunting.

The hypothesis that the entry format of the NDefs is more helpful for learners should be tested in future research. Although it seems pedagogically rather obvious that the entry formats of the LGDaF are unsuitable and discouraging for learners, empirical evidence is needed to convince dictionary publishers that arranging meanings of polysemous words in crowded run-on entries is ineffective. As argued earlier, space saving, as achieved by such entry formats, can be counterproductive in learners' dictionaries (cf. 6.2.2.6.). However, a different test format should be used in future research. It would be sufficient to ask the subjects to locate certain meanings in dictionary entries, without requiring that they supply equivalents. This way, the task would be less demanding, so that learners might be less inclined to abandon the search.

7.4. Summary

The experiment described in this Chapter provides quantitative evidence that the NDefs are in general more useful for intermediate learners than the LGDaF definitions, thus confirming the findings of the think-aloud study. This result also implies the greater effectiveness of the COBUILD definition style, on which the NDefs were modelled, for intermediate learners. As the effectiveness of the COBUILD definition style has not been empirically tested before, this study is the first that substantiates some of the arguments made in favour of the lexicographic principles of the COBUILD style (cf. 2.5.3.) and against the principles of the lexicographic tradition (cf. 2.5.2.).

There are two basic features of the NDefs which cannot be isolated for testing, because they are inherent to all definitions. These are the restricted defining vocabulary and the use of full-sentence definitions. These features are in total contrast to the respective LGDaF features, i.e. unrestricted defining vocabulary and artificial metalanguage (cf. 2.5.2.3., 2.5.2.4.). Because of the significantly higher

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success rate of the NDef users in this experiment, it must be assumed that the restricted defining vocabulary and full-sentence structure are effective features in definitions.

There is direct evidence for the effectiveness of the restricted defining vocabulary in the NDefs, albeit not from this experiment. Vocabulary problems experienced by the LGDAF users accounted for up to 40 percent of failures in the think-aloud study (cf. 6.2.2.5.). Therefore the conclusion can be drawn that the controlled vocabulary of the NDefs was a major factor for the users' significantly higher success rate.

No direct evidence could be obtained for the effectiveness of full-sentence definitions. There was only one example in this research of a subject encountering a problem with the syntactic structure in an LGDaF definition (cf. 6.2.2.4.). It can be assumed from the overall results that the full-sentence format, as a main feature of the NDEfs, is one reason for their effectiveness. However, in the present research format the effectiveness of full-sentence explanations remains a hypothesis. There is reason to assume that the defining vocabulary is the determining factor in the understanding of definitions, while complex syntactic structures do not affect understanding. This assumption is supported by research in reading comprehension which has shown that vocabulary knowledge is the strongest predictor of success, while syntactic complexity does not impede reading comprehension (Laufer 1997: 20 - 21). Therefore, a different research methodology has to be chosen in order to prove conclusively that the full-sentence format of the NDefs is more effective than the complex definitions structures of the LGDaF.

Individual definition features were tested with the aim of establishing what factors facilitate or impede the understanding of definitions in both dictionary conditions (NDefs and LGDaF definitions). The methodological limitations of testing individual factors were discussed in 7.3.2., the greatest limitation being that the factors can never be completely isolated, but work in combination with others. Another drawback was the limited number of target words available to test the hypotheses. Therefore, the conclusions drawn from this research context have to be verified by further research.

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There was evidence for the effectiveness of one individual definition feature which is shared by the COBUILD definitions and the NDefs. The effectiveness of what was termed a 'rich definition context' (cf. 5.2.2.2.2.) was strongly supported by the data. Examples and redundancies integrated into the definitions were identified as a helpful feature in the think-aloud study (cf. 6.2.1.3.), and the quantitative results of the experiment confirmed this finding. While redundancies are also a typical feature of the COBUILD definitions (Zöfgen 1990: 149), the NDefs include more examples than the COBUILD definitions. From the evidence obtained in this research, the conclusion can be drawn that both redundancies and examples in definitions certainly facilitate their understanding by intermediate learners.

From the results of the main think-aloud study and this experiment, preliminary lexicographic recommendations can be derived for the design of effective definitions for intermediate learners:
1) a restricted defining vocabulary should be used for the definitions;
2) redundancies and examples should be integrated into the definitions.
As explained before, because of limitations in this study, future research is needed to confirm these recommendations.

In the NDefs, derivational definitions which are common in the LGDaF were avoided, as they were observed to be problematic for learners. The hypothesis that derivational definitions are unsuitable for intermediate learners also found support, even though the quantitative evidence was based on definitions in which other factors may have influenced the results (cf. 7.3.2.5). However, the evidence was regarded as sufficient for deriving a further lexicographic recommendation:
3) no derivational definitions should be used in dictionaries for intermediate learners.

Other features of LGDaF definitions which were either observed or expected to be difficult for learners were also avoided in the NDefs, such as text condensation, encyclopedic definitions, and crowded entries of polysemous words that have no visual separation of the different word senses. Due to the limited choice of target words and limitations in the research methodology, the results did not indicate that these features should be avoided. As was argued in 7.3.2.4. and 7.3.2.6., a different

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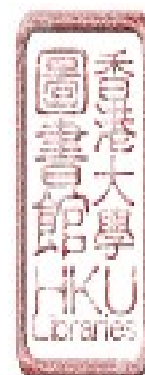
research design is needed to show that the above features create problems for learners.

The NDefs are not in all cases more effective than the LGDaF definitions. The data provided evidence that the LGDaF definitions are more useful for learners when they contain an equivalent in initial position while in the NDef the equivalent appears in the second part of a compound sentence. As has also been observed in previous research studies, it seems to be a main strategy of learners to search definitions for equivalents. The easier equivalents are to locate, the more successful will the look-up action be. Therefore, the following lexicographic recommendation can be made:
4) If a word can be explained by an equivalent, this equivalent should be stated in initial position.

In the NDefs, equivalents should be either presented before the full-sentence definitions, or be highlighted within the definitions, so that they can be more easily identified.

In addition to the findings which led to four preliminary lexicographic recommendations, another finding surfaced which offers some empirical evidence to the pedagogical discussion about the bilingual or the monolingual dictionary. As reported in 2.4.1., although most educators believe in the superiority of monolingual dictionaries, this belief is not based on research evidence. Furthermore, it has never been investigated at which proficiency level learners can start using the monolingual dictionary. As Hartmann explains, "threshold level specifications" have included guidelines on the different language skills as well as vocabulary, but have not specified which dictionary can be used at the different proficiency levels (1989a: 183/4). The results of the overall comparison between NDef and LGDaF users suggest that intermediate learners as defined in this research, i.e. having just finished the elementary course after, in the case of the Shanghai subjects, 460 hours of instruction, may be not yet capable of using the monolingual dictionary. As was discussed in 7.3.1., even the subjects in the high verbal ability group using the user-friendlier NDefs understood less than 50 percent of the target words, while the low verbal ability subjects' results in both dictionary conditions remain under 20 percent (cf. Table 7.22.). There is reason to assume that the ability to use monolingual dictionaries starts to develop around this level of language proficiency, since the

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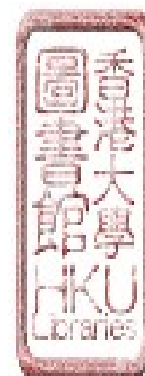
subjects of the think-aloud study, having received 560 hours of instruction understood a higher percentage of target words (57.9% in the NDef condition, 40.3% in the LGDaF condition, cf. 6.1.1.). Further research should aim to establish the threshold level for the use of monolingual dictionaries, as well as investigate the question whether intensive dictionary training would enable the threshold level to be lowered for students at the intermediate level. The results in this study show that the threshold level for the NDefs is lower than the one for the LGDaF definitions.

Finally, the importance of empirical research into dictionary use for the design of dictionaries was highlighted in this study: in one case, the subjects dealt with a definition in a completely different way as expected by the researcher. Although the NDef of the verb 'irritieren' was designed with the aim of avoiding the anticipated problem in the respective LGDaF definition, i.e. text condensation, (cf. 7.3.2.5.), the LGDaF subjects, making use of a helpful definition feature, were not impeded by the supposedly difficult feature. On the other hand, the NDef for the same verb presumably presented a problem for learners which was not anticipated by the compiler. This illustrates the limitations of pedagogical judgements when it comes to the design of definitions, and the need for investigations of the way learners actually deal with definitions. The necessity of basing lexicographic principles on user needs has been frequently pointed out in the relevant literature (Béjoint 1988: 144, Hartmann 1988: 231, 1989 b: 184, Tickoo 1989: 200).

Chapter 6 and this Chapter dealt mainly with the suitability of the two different monolingual definition styles for intermediate learners. The findings led to empirically-based recommendations for the design of monolingual definitions. In the following Chapter, the results of the different investigations of this thesis are summarised, the theoretical, empirical and pedagogical implications of the findings are discussed, and suggestions for further research are made.
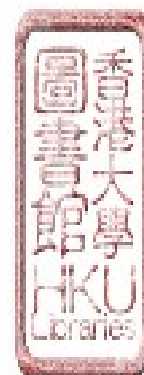
8.0. Introduction

In this Chapter, the major findings of the research undertaken for this thesis are summarised first. Next, the contributions of these findings to existing knowledge in the areas of lexicography, language pedagogy, and empirical research methodology are described. Then, the application of the research results is explained, followed by a discussion of the research's limitations, and suggestions for future research.

8.1. Major findings

There were two major research aims in this thesis: In the theoretical field, the research dealt with the question what features make monolingual dictionary definitions effective for intermediate learners. Empirical evidence of user needs was sought in order to derive principles for effective monolingual definitions. In the pedagogical field, the research dealt with the question which dictionary is most effective for intermediate learners. Empirical evidence of the effectiveness of different dictionary types was sought in order to facilitate the evaluation and recommendation of suitable dictionaries for intermediate learners.

The research findings can be divided into

1) findings that apply to the learning context in Hong Kong;

2) findings that apply to a wider context, i.e. to intermediate learners in general.

8.1.1. Findings specific to the learning context in Hong Kong

There are two findings concerning dictionary use which apply specifically to Hong Kong Chinese learners. The fact that all participants in the survey (cf. 4.1.1.) preferred the bilingual to the monolingual dictionary is not unique to Hong Kong Chinese learners. This preference has been widely reported of learners from different backgrounds and proficiency levels (Zöfgen 1994: 253/4; cf. 2.6.). However, the clear preference for a bilingual dictionary in which the target language is not explained in the mother tongue, but in the second language, is certainly more specific to the Hong Kong context and has to be seen against the linguistic background of the Hong Kong Chinese learners (cf. 1.3., 4.1.4.). It was found that this preference for using foreign language-English bilingual dictionaries is shared by Hong Kong Chinese learners of
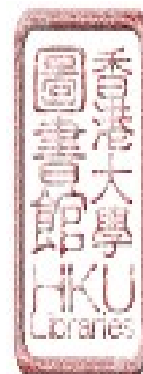
French (cf. 4.1.1.). While bilingual dictionaries may not exist for many minor languages, and therefore speakers of such languages are forced to use dictionaries involving their second language, German-Chinese and French-Chinese dictionaries are available. However, Hong Kong learners opt for the English version which they regard as easier to use and, because of the cultural similarity of the language pair, more capable of relating word concepts than Chinese. It can be assumed that this preference is shared by Hong Kong Chinese learners of other European languages.

The second finding was that the German-English dictionary is not much more effective than the German monolingual dictionary for incidental vocabulary learning and reading comprehension by Hong Kong Chinese intermediate learners of German. This finding, although tentative, as the total number of participants in the experiment was only 46, was somewhat surprising. The monolingual dictionary was believed to be too demanding at this proficiency level, a belief widely shared by the subjects surveyed (cf. 4.1.2.1.2.). Therefore it was expected that the German-English bilingual dictionary would be significantly more effective. However, it was discovered that 41 percent of unsuccessful look-ups in the bilingual dictionary condition were due to subjects not knowing the English equivalent of the German word (cf. 6.3.2.3., Table 6.17.). This result shows that because of insufficient proficiency in English (cf. 1.3.), this type of bilingual dictionary is not really effective for the Hong Kong Chinese learners. While it can be assumed that usually for learners at the intermediate level a bilingual dictionary, in which foreign language words are explained in their mother tongue, is still more effective than the monolingual dictionary, this is not the case with the Hong Kong students' preferred type of bilingual dictionary.

Considering these two findings, the conclusion was drawn that since the bilingual dictionary was not much more effective than the monolingual dictionary, the use of the latter one should be recommended to Hong Kong Chinese intermediate learners. Consequently, the research focused on the effectiveness of different monolingual definition styles, in order to find the most suitable one for intermediate learners. The results of the investigations on monolingual definition styles are not specific to the learning context in Hong Kong, and are summarised in the next section.
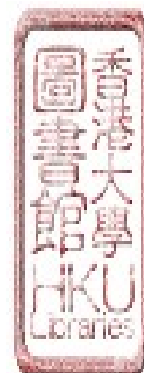
8.1.2. Findings applying to intermediate learners in general

The findings concerning the effectiveness of monolingual definitions were first obtained in the think-aloud studies by analysing the reasons for successful and unsuccessful look-up actions. The results can be grouped into learner-related and dictionary-related reasons. Although the research focus was on dictionary features rather than learner behaviours, the findings concerning learner strategies and reference skills are also summarised here: firstly, they confirm observations reported in previous research studies, secondly, strategy mistakes and lack of reference skills account for a considerable amount of failures in dictionary consultation, and thirdly, the findings may provide the basis for further research into dictionary strategies as well as for more applied dictionary training.

8.1.2.1. Learner-related reasons for unsuccessful dictionary consultation

Three major areas of strategy mistakes were revealed in the think-aloud studies. They were discussed in more detail in 6.4.1.

1) Reading only the first part of the dictionary entry: bilingual dictionary users frequently did not read beyond the equivalents offered for the first meaning of polysemous words (cf. 4.3.2.1., 6.3.2.1.), while monolingual dictionary users read only the first definition in entries, ignoring not only further meanings of the word, but also additional information offered for the first meaning, such as grammatical information or examples (cf. 4.3.2.2., 6.2.2.5.1.). This behaviour occurred more frequently in the bilingual than the monolingual dictionary condition. The tendency of learners to read only the beginning of dictionary entries was also observed in earlier studies (cf. 2.6.2.2.).

2) Failing to locate the right entry or the appropriate meaning within an entry: several learners experienced problems with compound words. As less frequent compounds do not have an entry on their own in dictionaries, users have to look up the individual components. There were several cases in the think-aloud studies when subjects were not able to split compounds into their composite parts. No previous research has highlighted this difficulty which arises specifically for users of German dictionaries. It was argued that learners must be trained to distinguish the components of compound words in order to use German dictionaries successfully (cf. 4.3.2.1., 6.2.2.5.2).

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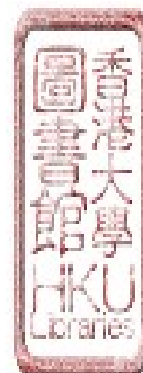
3) 'Kidrule': While the tendency of dictionary users to pick out a familiar segment from the dictionary definition was reported in research on children and adults composing sentences (Miller & Gildea 1985, Nesi & Meara 1994: 3-5, cf. 2.6.2.1.), Müllich (1990: 179 - 180) was the first to observe this behaviour when learners looked up words for reading comprehension. In this research, there was strong evidence that 'kidrule' is as common a strategy in dictionary consultation for reading comprehension as it is for language production. This is illustrated by the fact that 'kidrule' accounted for 23 percent of unsuccessful word look-ups in the monolingual dictionary conditions (cf. 6.2.2.5.3.). Similarly, Nesi and Meara (1994: 9) estimated that 'kidrule' was responsible for just under a quarter of all errors their subjects produced when they wrote sentence with words looked up in the dictionary.

In 6.4.1., it was argued that 'kidrule' is the negative version of a strategy that, under the right circumstances, leads to successful dictionary consultation. It was found in the think-aloud studies, and confirmed by the second experiment, that learners look up words highly successfully, when the definition contains an equivalent that can be substituted for the unknown word in the reading context. If the definition does not contain any equivalent, or no equivalent which is linguistically simple enough for the learners to understand, they tend to choose any other familiar segment as an equivalent. This finding gave an important insight into the way intermediate learners read definitions: they approach monolingual definitions as they approach a bilingual dictionary entry, i.e. searching for an equivalent for the unknown word. If they find one, or what they take for one, they ignore the rest of the definition. This approach was also observed by Müllich (1990: 489). This illustrates that intermediate learners are still guided by the habits of bilingual dictionary use, seeking equivalents for the unknown words instead of trying to derive the word meaning from the whole definition. The frequent use of the 'kidrule' strategy indicates that in many cases either the definition is too difficult and can therefore not be synthesised into a mother tongue equivalent, or that the users are not sufficiently trained to do so.

Certainly, the learner-related reasons for unsuccessful dictionary consultation highlight the need for training in dictionary use. The results of this research show that even tertiary-level students do not possess the necessary reference skills. However,

as the survey revealed, few students receive instruction in dictionary use at university (cf. 4.1.3., Table 4.8.). This reflects a lack of awareness among teachers of the importance of dictionary training.

In the following sections, dictionary-related reasons are reported, i.e. the features in monolingual definitions which prevent or facilitate their understanding.

8.1.2.2. Dictionary-related reasons for unsuccessful dictionary consultation

An important finding, and perhaps a predictable one, is that the defining vocabulary is a crucial feature for the understanding of definitions. The LGDaF's vocabulary is too difficult for intermediate learners. There was clear evidence in the think-aloud studies that the defining vocabulary was a major obstacle for the subjects using the LGDaF, accounting for up to 40 percent of failures (cf. 4.3.2.3., 6.2.2.5.). Vocabulary difficulties appeared especially in noun definitions. Noun definitions in the LGDaF usually contain superordinates, as required by the technique of defining by genus proximum and differentia specifica (cf. 2.5.2.3.). These superordinates are often abstract words which were found to be unfamiliar to the subjects of this research (cf. 6.2.2.2.1.). It was argued that with the superordinate being unknown, the learners cannot gain access to the semantic field of the target words, and are therefore unlikely to make use of any other information in the definition. The lexical problem is aggravated through the fact that superordinates are not used consistently in the LGDaF (cf. 5.1.6.).

Another defining technique in the LGDaF which inevitably contains unknown vocabulary is the derivational definition. In the derivational definition, the unknown word is defined by its root word. As was argued in 6.2.2.3., it is usually this very root word which is unfamilar to learners. Since derivational definitions explain unknown words by unknown words, they must be ineffective. The results of this research confirmed the ineffectiveness of derivational definitions (cf. 7.3.2.3.)

Apart from the superordinates and root words in derivational definitions, a substantial number of infrequent words were found in the LGDaF definitions of the target words (cf. 5.1.6). The analysis of a sample of 60 LGDaF definitions showed that, with a very conservative calculation, 16 percent of the defining vocabulary is likely to be unknown

to intermediate learners (cf. 4.3.3.). The think-aloud studies revealed that in some definitions, the subjects failed to understand any of the content words (cf. excerpts in 6.2.1.3., 6.2.2.2.1.).

The findings show that unrestricted defining vocabulary is the main feature accounting for the failure to understand monolingual definitions. Vocabulary problems are inherent in certain defining techniques, such as defining by genus proximum and differentia specifica, and the derivational definition.

The lexicographic definition style, which is used in the LGDaF, has been described as unsuitable for learners because of text condensation, encyclopedic definitions, and the organisation of too many meanings of polysemous words into too crowded entries (cf. 2.5.2.9.) . Although difficulties with these features were observed in individual cases in the think-aloud studies, no statistical evidence for their negative effect could be obtained from the experiment. This can be explained by limitations in the research design and will be discussed in 8.5.1.

There was also no direct evidence for a negative effect of the complex syntax in LGDaF definitions as opposed to the full-sentence definitions of the NDefs. As was argued in 7.4., it is hypothesised that the full-sentence format of the NDefs was one factor for the NDef users' significantly higher success rate in the experiment. However, a different research design is needed in order to prove that the complex structures in the LGDaF definition are ineffective for intermediate learners.

8.1.2.3. Dictionary-related reasons for successful dictionary consultation
Two factors which enhance the understanding of definitions could be identified in this research.

The first one was the availability of an equivalent in the definition, which has already been mentioned in 8.1.2.1. Definitions which contain an equivalent for the headword are most successfully looked up by intermediate learners, given that the equivalent is familiar to them. As was discussed before (cf. 6.2.1.2., 8.1.2.1.), the search for equivalents is due to the habits of bilingual dictionary use.

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The data also offer information about the most effective position of equivalents in definitions. Equivalents could be more easily located in the structure of the LGDaF definitions, where they appear in initial position. LGDaF users were found to be highly successful if the equivalent was in initial position in the definition. This way, the rest of the definition and any potential difficulties in it could be ignored (cf. 6.2.1.1.).

The second factor which proved to enhance the understanding of definitions was the integration of redundancies and examples into the definition text. As was explained in 5.2.2.2.2., redundancies and examples can evoke mental images. A definition containing redundancies and examples offers a rich context. Because of the "imageability of concept" (Ellis & Beaton 1995: 114), a rich definition context is easier to understand for intermediate learners, especially in the case of abstract words. Including redundancies and examples was a defining principle for the NDefs. In cases when the NDef contained an example or a redundancy, while the respective LGDaF definition did not, the NDef users were significantly more successful (cf. 7.2.2.1.).

8.1.3. Further findings

Another important finding concerns the threshold level for the use of monolingual dictionaries. The generally low results on the tests in this research indicated that intermediate learners have probably either just reached the proficiency level necessary to cope with monolingual dictionaries, or are, in the case of weaker learners, still below it (cf. 7.3.1.). The fact that there was no significant difference in the results between low verbal ability students using the more difficult LGDaF definitions and those using the NDefs suggests that weaker learners are generally not ready to use monolingual dictionaries at the intermediate level. For high verbal ability students, the successful use of monolingual dictionaries depends on the dictionary's suitability. The results illustrated clearly that the NDefs have a greater suitability for learners at this level than the LGDaF definitions. However, even the high verbal ability students using the NDefs understood under 50 percent of the target words (cf. Table 7.2.1). While it could be argued that their performance could certainly be enhanced by dictionary training (cf. 8.1.2.1.), and that other factors such as the reading context might have influenced the results, this low rate of understanding is at the same time a clear indication that these learners, after 460 hours of instruction, barely reached the proficiency level necessary to understand monolingual definitions.
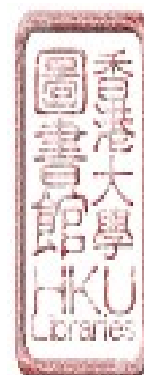
The observation that the threshold for the use of monolingual dictionaries lies at or above the intermediate proficiency level has important pedagogical implications which will be further discussed in 8.2.2.

The think-aloud studies also revealed some weaknesses in the presentation of words in the dictionaries. A weakness in the LGDaF is to present derived nouns at the bottom of the entry of the root word without explaining the meaning of the noun. As explained in 6.2.2.6., the task of inferring the meaning of the derived word from the root word can be too demanding for intermediate learners, especially if unproductive affixes form the derivative. Despite the fact that it requires more space, presenting the meaning of derived words in their own entry would certainly be beneficial for learners. The greatest weakness found in the bilingual dictionary, the LNCGD, was that for a number of target words important senses were not represented with an equivalent (cf. 6.3.3.4.). It has been pointed out before that there is no representative corpus of written and spoken language for German (cf. 5.2.1.). This is detrimental to learner lexicography in two aspects: Firstly, there is no basis for a frequency list that can be used as the defining vocabulary in learners' dictionaries; secondly, there is no basis for the selection of words, and word meanings, to be included in learners' dictionaries. It is left to the lexicographers' judgement to decide whether a word, or a particular sense of a word, is frequent enough to be included.

8.2. Contributions of this research

Of the findings reported above, those concerning the dictionary-related reasons for successful and unsuccessful dictionary consultation provided answers for the two main research questions of this thesis (cf. 1.4.4.):

1) Which dictionary is most effective for intermediate learners?
2) What features make monolingual dictionary definitions effective for intermediate learners?

As the answers to the first question fall into the area of pedagogy, they are reported in 8.2.2. The answers to the second question contribute to lexicographic theory and are reported in 8.2.1.

As was discussed in 1.1., dictionaries have traditionally been compiled in more or less ignorance of user needs. Equally, dictionaries have been recommended without

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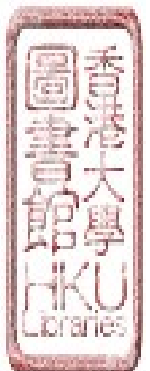
sufficient knowledge of how well they accommodate user needs. This research aimed at providing insights which can help to bridge the gap between lexicographers' and educators' preconceptions on one the hand, and actual user needs and reference skills on the other hand. The research contributes to three areas: 1) the so far mostly theory-based field of lexicography, by providing empirically-based information on effective lexicographic principles; 2) language pedagogy, by providing empirically-based information on the suitability of different dictionary types for intermediate learners, and 3) research methodology, by demonstrating a new approach to investigating dictionary use with complementary research methods.

8.2.1. Theoretical contributions

The findings of this research contribute knowledge to the theoretical discussion about principles in learner lexicography. Lexicographic principles have been based on lexicographers' and educational researchers' assumptions rather than on empirically-based knowledge of user needs. The evidence provided by this research substantiates some of these assumptions. However, some arguments and assumptions in the lexicographic literature seem problematic in view of the results of this research. They will be discussed first.

The first issue is the defining vocabulary. As explained in 8.1.2.2., a controlled defining vocabulary is an important factor for the understanding of definitions by intermediate learners. However, the control of the defining vocabulary in learners' dictionaries has been a controversial topic (cf. 2.5.2.1.). Some applied linguists argued against controlled defining vocabulary on the grounds that it creates inaccuracy, as well as unnatural and inauthentic language (Carter 1987: 127, Tickoo 1989: 188). Zöfgen (1994: 138) asked for empirical proof that definitions with controlled defining vocabulary are understood better.

Sufficient empirical proof was provided by this research. Since around 40 percent of failed consultations of the LGDaF were due to unknown defining vocabulary, while no vocabulary problems surfaced in the NDef condition, it is obvious that a monolingual dictionary for intermediate learners must have some kind of controlled defining vocabulary. The argument that vocabulary control may result in unnatural and inauthentic language is certainly justified. However, this may have to be accepted in

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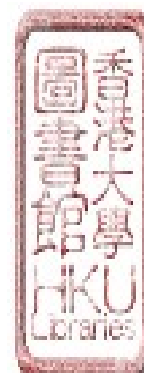
dictionaries that cater for intermediate learners. The alternative is that the learners do not understand the definitions at all. Nevertheless, further research should investigate whether the vocabulary has to be restricted as radically as in the LDOCE, i.e. to 2000 words[60]. It has to be determined by future corpus research what vocabulary size would be reasonable for a defining vocabulary.

The editors of the LGDaF clearly underestimate the role of the defining vocabulary. As reported in 5.1.6., in the 'Instructions for Users' an integrative concept is outlined. According to this concept, users are supposed to infer word meanings not only from the definitions, but also from the additional information in the entry (LGDaF 1993: xx). If learners would indeed take careful notice of examples, synonyms, antonyms, and collocations, they would perhaps be able to derive the meanings of words from the combined information, even if the definition itself contained some unknown vocabulary. In reality, learners' strategies as observed in this and previous research are by no means as sophisticated as the LGDaF's editors envisage. Learners do not read dictionary entries in the way expected by the editors. On the contrary, they tend to read only a minor part of dictionary entries (cf. 2.6.2.2., 6.4.1., 8.1.2.1.). Therefore it is essential that the meaning of the headwords is conveyed by the definitions themselves. Consequently, if a learners' dictionary aims to cater for intermediate learners, the definitions must not contain vocabulary that is unfamiliar to them.

At this point, the issue must be taken up whether a controlled defining vocabulary is possible for a German learners' dictionary. In 2.5.3.5., claims were reported that the German language does not allow vocabulary control as easily as English (Herbst 1998: 23, Götz & Haensch 1998: 349). It was demonstrated in this thesis that restricting the defining vocabulary to not more than about 2300 words was possible for the NDefs of the target words (cf. 5.2.1.). Although it can neither be claimed that the corpus for the NDefs' defining vocabulary, the Basic Word List, is the most suitable one, nor that the highest possible level of accuracy and authenticity was achieved in the NDefs, the restricted vocabulary proved to be beneficial for the subjects in this research. Therefore, this research gave on one hand a clear indication that the control of the defining vocabulary for German is possible, and on

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[60] As was explained in 3.1.2.2.2., the actual vocabulary size of intermediate learners is around 3000 words, because the textbooks introduce more words than the Basic Word List contains.

the other hand provided a starting point for research into corpora and their effectiveness for defining words for intermediate learners.

There have been also a number of lexicographic recommendations for a user-friendly definition style. The main principle promoted in the lexicographic literature is the use of natural language, based on explanations in everyday language (Wiegand 1989: 553 - 557), or "folk definitions" (Stock 1988: 81). This principle was first followed in the COBUILD style of word explanations (cf. 2.5.3.3.) by using full-sentence definitions and including the typical context of a word into the definitions. The advantage of the full-sentence explanation is, according to Zöfgen (1994: 140), that the information which is crowded into complex syntactic structures in the lexicographic definition, is spread out over a longer text passage, i.e. 'decompressed', and therefore more easily absorbed.

In this research context, the effectiveness of the full-sentence structure could not be empirically proven, and remained a hypothesis. However, one argument for full-sentence definitions is that difficult defining vocabulary can be avoided through paraphrasing (cf. 5.2.2.1). This gives indirect support for the effectiveness of the full-sentence definition structure, in view of the finding that the defining vocabulary was a main reason for failure in the LGDaF condition.

However, full-sentence definitions were declared to be impracticable by the editors of the LGDaF (Götz & Haensch 1998: 349, cf. 2.5.3.5.). Their arguments that a) the gender distinction poses a problem, and b) that full-sentence definitions take up much more space, have to be refuted, as there is some, albeit indirect, evidence that full-sentence definitions as a basic feature of the NDefs are effective for intermediate learners. The problem of the gender distinction, which requires the decision whether the masculine of feminine pronoun is used for reference, is based on unnecessary sensitivities and does not hold ground when it comes to a greater effectiveness of definitions. The space-saving argument is unacceptable insofar as a dictionary's main concern must be that learners understand the definitions. From a commercial point of view, even if space is saved in order to keep production costs low, a dictionary might not sell well in the long run, if it has the reputation of being too difficult to be understood.

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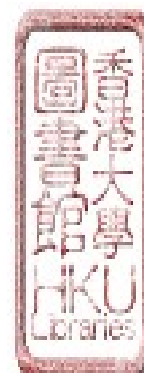
The following assumptions about lexicographic principles were substantiated by the results of this research.

Certain techniques used in lexicographic definitions have been claimed to be unsuitable for learners. Rundell (1988: 131), Zöfgen (1994: 131), and Kühn (1998: 38) have criticised the defining technique by genus proximum and differentia specifica as creating a highly artificial defining language, which is full of stylistic and syntactic complexities and therefore unsuitable for learners. This criticism was validated by the findings in this research. As already discussed in 8.1.2.2., the LGDaF definitions by genus proximum and differentia specifica did indeed create problems. These problems were predominantly lexical ones, as several superordinates representing the genus proximum were unknown to the learners.

Rundell (1988: 132) also declared derivational definitions which appear frequently in lexicographic definitions as unsuitable for learners. The findings in this research substantiated this claim with empirical evidence (cf. 7.2.2.5.).

The integration of redundancies and examples into the definition is regarded as a particular strength of the COBUILD style (Zöfgen 1994: 140). Redundancies were found to enhance the effectiveness of definitions by Kostrzewa (1991: 103/4, 107). In this thesis, direct evidence was provided that redundancies and examples in definitions facilitate their understanding (cf. 7.2.2.1.).

The effectiveness of equivalents as part of definitions has never been discussed in the lexicographic literature. This factor is not linked to a specific definition style, but has more to do with learners' dictionary habits. In 8.1.2.1., it was argued that intermediate learners are still following the habits of bilingual dictionary use by expecting equivalents. However, a dictionary that aims to cater for intermediate learners should make use of all features that were found to be helpful for these learners. It was found that the NDef users could not so easily identify the equivalents which were embedded in the main clauses of compound sentences. Under these circumstances, the full-sentence definition format of the NDefs turned out to be disadvantageous for learners. The lexicographic implication of the findings is that

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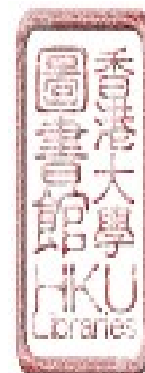
equivalents should be presented in initial position and in citation form. This would basically mean offering the conditions of a bilingual dictionary to the users.

By revealing the widespread strategy of intermediate learners to search for equivalents in definitions, this research provides an answer to the question raised by Béjoint & Moulin. They questioned whether the monolingual dictionary helps learners to understand words within the system of the target language, or whether the L2 definition just sends the learner back to an L1 item "...that most closely corresponds to the referent described" (1987: 103; cf. 2.4.1.). The fact that the learners focus on equivalents in definitions and, if possible, ignore the rest of the definition, suggests that they avoid understanding words within the system of the target language, but presumably translate the foreign language equivalent straight back into their mother tongue. This obviously common strategy invalidates a major argument in favour of the monolingual dictionary, i.e. that it fosters thinking in the L2 (cf. cf. 2.4.1.). However, this strategy may be attributable to the fact that intermediate learners have so far relied on bilingual dictionaries. Perhaps, with growing proficiency in the foreign language and through dictionary training, the fixation on equivalents will be gradually replaced by more appropriate strategies.

The results of this research offer some answers for the second main question in this thesis, i.e. what features make monolingual dictionary definitions effective for intermediate learners. These features were explained above, and are listed in the proposed model of dictionary use in 8.4.1. (Figure 8.2.).

These definition features can be recommended as user-friendly lexicographic principles. However, the list of features is by no means conclusive. As will be explained in more detail in 8.5.1., due to limitations in the research methodology, no evidence could be obtained for a number of features which were hypothesised to impede the understanding of definitions.

This research is the first which systematically investigated the effect of different definition features on learners. Consequently, it can not only offer empirically-based lexicographic recommendations, but also pedagogical recommendations.

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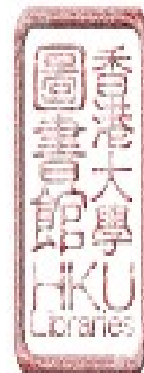
8.2.2. Pedagogical contributions

The pedagogical recommendations derived from the results in this thesis concern a) the effectiveness of different dictionaries for intermediate learners, and b) guidelines for the evaluation of learner dictionaries.

In addition, the research gave some insight into the role of learners' reference skills in the effective use of dictionaries. This shall be briefly discussed first.

According to Cowie,

> "discussion has long centred on the question whether failures to use dictionaries effectively result from inadequacies on the part of the users or deficiencies in the dictionaries themselves. Until quite recently commentators have tended to attribute shortcomings to dictionary-makers rather than dictionary users" (1999: 188).

The findings in this research revealed that insufficient look-up strategies and lacking reference skills are responsible for a considerable amount of failures in dictionary consultation. This illustrates that learners' failure to use dictionaries cannot be attributed to dictionary deficiencies only. As the process of dictionary use has rarely been observed before, there is presumably a general lack of awareness of intermediate learners' inappropriate dictionary skills. The large survey conducted by Atkins & Knowles (1990, cited in Cowie 1999: 191, cf. 4.1.4.) found that only 12.9 percent of the participants had received systematic instruction in dictionary use, indicating that many teachers are unaware of their learners' need for dictionary training. Process-oriented research, as undertaken for this thesis, helps to raise this awareness.

The first main question in this thesis was which dictionary can be recommended to intermediate learners. At this proficiency level, the initial step was to find out whether the bilingual is still more effective, or whether the monolingual dictionary can already be used effectively. The framework of this research does not allow for a general answer concerning the bilingual dictionary. For the subjects of this research, Hong Kong Chinese intermediate learners of German, bilingual dictionary use cannot be recommended because of their specific preference of the FL-L2 bilingual dictionary . This dictionary type was found to be rather ineffective through vocabulary problems in English.

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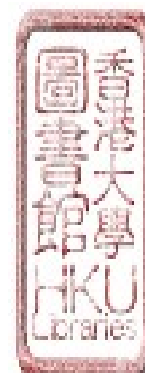
Neither can the monolingual dictionary be fully recommended at this level. An important finding of this research concerns the threshold level: intermediate learners have just reached the threshold level for using the monolingual dictionaries (cf. 7.3.1., 8.1.3.). This applies only to high verbal ability students, while weaker students are still below the threshold level. It also applies only to the use of the linguistically simpler NDefs, while the use of the LGDaF resulted in a much lower success rate even by high verbal ability students (cf. Table 7.21). Even though this finding has to be validated by further research, it illustrates a major deficit in the discussion about the effectiveness of bilingual versus monolingual dictionaries (cf. 2.4.1.). The prevailing argument that monolingual dictionaries are more effective for learners can be misleading as long as it is not clear what proficiency level learners must have reached. However, no previous study has pinpointed the stage in the process of language acquisition when learners start to be able to understand monolingual definitions. This research provides evidence that this ability is not reached by all intermediate learners.

The effectiveness of a monolingual dictionary at the intermediate proficiency level depends on the user-friendliness of its features. Some definition features that are effective for intermediate learners were identified in this research and discussed in 8.2.1.

Recommendations concerning the most suitable dictionary for intermediate learners can, according to the findings of this research, be summarised as follows: Weaker students at the intermediate level are in general better advised to use a bilingual dictionary, given that the equivalents are presented in their mother tongue. Higher achievers, however, can at this proficiency level begin to use a monolingual dictionary which offers user-friendly features, such as the NDefs. It is likely that a dictionary with these features would be more effective, if the learners were trained how to use it. For intermediate learners of German, the LGDaF cannot be recommended - the most obvious reason being its unrestricted defining vocabulary.

Although it is beyond the scope of this thesis, it shall be briefly discussed here whether a bilingualised dictionary might be the ideal choice for intermediate learners.

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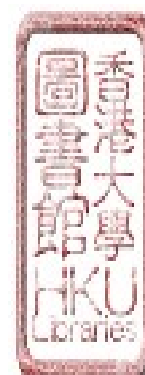
For all the advantages of monolingual dictionaries (cf. 2.4.1.), it is certainly desirable to enable learners to use them as early as possible in the language acquisition process. On the other hand, if the learners are frustrated by not being able to understand the definitions, they will defer to the use of monolingual dictionaries. The bilingualised dictionary could provide learners with the security of equivalents, while at the same time introducing them to monolingual word explanations. In other words, the bilingualised dictionary would facilitate the transition from bilingual to monolingual dictionaries. The suitability of bilingualised dictionaries for intermediate learners was advocated by Thompson (1987: 284/5), and their effectiveness for learners of different proficiency levels was demonstrated by Laufer & Hadar (1997).

Another pedagogical implication arising from this research concerns the evaluation of dictionaries. As was explained in 1.1., learners rely on teachers' recommendations in their choice of a dictionary, and yet it seems that teachers too readily recommend the monolingual dictionary when in fact it is not yet appropriate. The reasons for recommending the monolingual dictionary can be that the teachers accept the "orthodoxy" of its superiority (Thompson 187: 282), as well as being convinced of its suitability by the label 'learners' dictionary'. Even after careful examination of a dictionary, it is difficult for teachers, without a set of criteria, to foresee all potential problems learners may experience with it, and to assess the suitability of the dictionary in question.

In view of the fact that an increasing number of dictionaries are coming onto the market, an evaluation method is needed which helps teachers to systematically assess the suitability of different dictionaries for learners. Through this and future research, in which learners using dictionaries are directly observed, problems can be uncovered that might not be anticipated by teachers. A set of criteria for the assessment of a dictionary's suitability can be developed from these observations. The evaluation method could be a checklist with these criteria, i.e. different features that should or should not be represented in a suitable dictionary. In the case of monolingual dictionaries for intermediate learners, some items for such a checklist were identified by this research. These items are the features that are listed in Figure 8.2. (cf. 8.4.1.).

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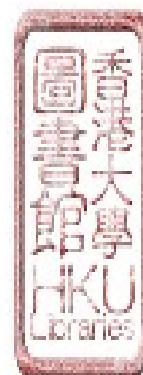
The checklist consisting of these features identified by this research is not yet a complete evaluation instrument. As will be discussed in 8.5.1., there are a number of definition features which still need investigating. Equally, the proposed checklist is only valid for learners at this particular proficiency level. However, it offers a starting point for the development of an empirically-based evaluation method of learners' dictionaries.

8.2.3. Empirical contributions

For many years, research into dictionary use was carried out with indirect methods such as questionnaires (cf. 2.6.1.), or the analysis of test results in order to assess the effectiveness of dictionaries (cf. 2.6.2.1.) These approaches were not capable of revealing what problems learners encounter when consulting the dictionary, either because of dictionary deficiencies, or because of inappropriate reference skills. Researchers made inferences about dictionary deficiencies and learner skills from the results of questionnaires or language tests. In order to fully understand the reasons why learners consult the dictionary successfully or unsuccessfully, it is necessary to monitor the very process of dictionary consultation. The need for the direct observation of dictionary use has been stressed repeatedly (Hatherall 1984: 184, Béjoint 1988: 144, Hartmann 1988: 231, 1989b: 184, Tickoo 1989: 200). Direct observation, however, by means of the think-aloud method, was undertaken in only two studies before (Neubach & Cohen 1988, Müllich 1990). The shortcoming of these studies was that the results were reported in an impressionistic manner without indicating whether observed behaviours were idiosyncratic or more common among their subjects. Rather surprisingly, these observations were never taken up as hypotheses for follow-up deductive research.

As can be seen from the above discussion, research into dictionary use is beset by the usual methodological dilemma: While the quantitative studies produced results that were either, especially in case of the questionnaire studies, superficial and uninformative, or, as in the result-oriented studies, allowed only conjectures about the look-up process, the qualitative studies, although providing some new insights into the look-up process, did not produce generalisable results.

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The strength of this research is that different research methods were combined. It is, as far as this researcher is aware, the first study of dictionary use in which hypotheses derived from the qualitative part of the research, the think-aloud studies, were subjected to quantitative testing in the experiment. By using complementary methods, the research drew on three sources of information: the dictionary entries, the performance data of learners, and the learners' thoughts during dictionary consultation. This takes the research to a level above previous studies in which only dictionary entries and performance data were examined, and conclusions about the look-up process were drawn from those two sources (cf. 2.6.2.1.). One advantage of using three sources of information is that triangulation was achieved, confirming the internal validity of the research. More importantly, all three sources were needed in order to facilitate a link between lexicographers' preconceptions about useful learners' dictionaries, and learners' actual reference needs and reference skills.

The research methodology used in this thesis confirms what Cummings et al. concluded:

> "...empirical study of different ways to present lexical information is practical, although addressing thoroughly even the simple comparisons of the current experiment requires development of richer tasks and measures" (1994: 376).

Cummings et al., in their comparison of the LDOCE and COBUILD definition style, relied on their subjects' judgement and performance data. The results were inconclusive and did not provide insights into the effect the different definition styles had on learners. This research, by including the method of thinking aloud, fulfils the requirement of richer measures. However, as will be discussed in 8.5.1., not all measures in this study were suitable for achieving optimal results.

8.4. Applications of the research

In this section two possible applications of the research result are discussed. The first application is a model of dictionary effectiveness. The second application is the contribution towards a user-friendly learners' dictionary for German.

8.4.1. A model of dictionary effectiveness

It was argued in 1.1., that a model of dictionary effectiveness is needed for two purposes: the first purpose is to provide lexicographic principles for dictionaries for

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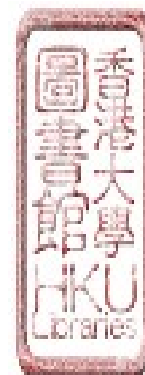
different proficiency levels. The second purpose is to provide evaluation criteria in order to assess whether a dictionary is suitable for learners of a certain proficiency level, as well as for a certain activity. Such a model is proposed here. As can be seen in Figure 8.1., the complete model comprises more factors than could be covered by this research. Two factors determine dictionary effectiveness: 1) The user needs, i.e. the way the information has to be presented in order to be effective for the users. The factor 'user needs' consists of the different proficiency levels. 2) The reference needs, consisting of the different activities for which the dictionary is used. These two factors determine the format and type of information that is required from the dictionary. The third factor are the dictionaries and the information they offer.

As can be seen in Figure 8.1., among these factors different combinations are possible. For instance, the aim could be to find out what makes a dictionary effective for writing by advanced learners. Research would then have to look into information categories such as examples and grammar and identify how this information is to be presented in the most effective way. Figure 8.1. shows the combination of factors that was investigated in this research.
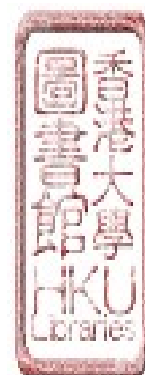
Figure 8.1.: Proposed model of dictionary effectiveness

<u>**1. User needs**</u>   <u>**2. Reference needs**</u>

<u>Proficiency level:</u>   <u>Activity:</u> Writing

                    Reading

Beginners

               <u>Required Information Categories:</u>

Intermediate learners   **Meaning**

Advanced learners   Examples

                    Grammar, etc.

<u>**3. Dictionaries with information categories offered**</u>

Bilingual dictionary	**Monolingual dictionary**

Translation equivalents	**Definitions** Effective features? Ineffective features?

Examples	Examples

Grammar	Grammar

The above model is only the framework, into which details concerning the information categories still have to be filled in. Depending on the combination of factors, research has to identify what features make the different information categories effective. Figure 8.2. illustrates the contribution of this research to the model, by examining the factors 'intermediate learners' (user needs), 'meaning' (reference needs) as required by the activity of reading, and the information category 'definition', offered by two different monolingual dictionaries.
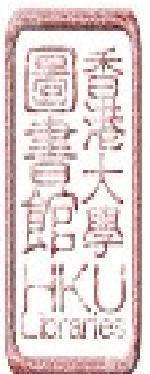
Figure 8.2.: Part of the proposed model of dictionary effectiveness:
Dictionary effectiveness for reading comprehension by intermediate learners

<u>**1. User needs**</u>   <u>**2. Reference needs**</u>
<u>Proficiency level:</u> **Intermediate learners**   <u>Activity:</u> **Reading**

          <u>Required Information Category:</u> **Meaning**

<u>**3. Dictionary:**</u> **Monolingual dictionary**
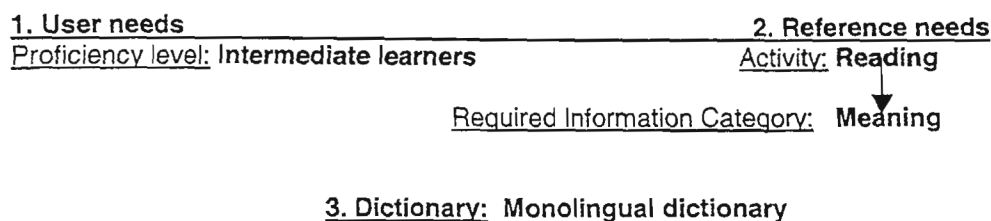
	Definition
<u>1. Effective features:</u>	Redundancies and examples as part of the definition; If available, equivalents; in initial position.
<u>2. Ineffective features:</u>	Unrestricted defining vocabulary; Derivational definitions; Definitions that contain unknown superordinates.

This research has identified what makes one information category, the definition, effective for intermediate learners for the activity of reading. As mentioned in 8.2.1., the list of definition features in the above model is not complete. Due to methodological limitations in this research, evidence for other features which were hypothesised to be effective or ineffective could not be obtained. Although incomplete, the list can be used for two purposes: 1) as lexicographic guidelines for defining words in dictionaries for intermediate learners, and 2) as evaluation criteria when the effectiveness of a monolingual dictionary for intermediate learners has to be assessed.

In a brief excursus, it shall be described how a dictionary can be evaluated with this list. As mentioned in 2.5.1., a second German learners' dictionary was published in 1999, aiming especially at learners at the elementary and lower intermediate proficiency levels. This dictionary, the *Pons Basiswörterbuch Deutsch als Fremdsprache*, was evaluated with the criteria in the list. In order to simulate a realistic situation when a teacher wants to assess different dictionaries for their

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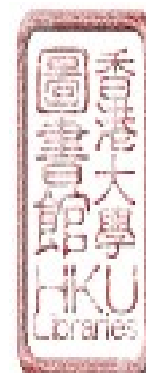
suitability for intermediate learners in a not too time-consuming way, only 20 words were chosen randomly. The same method was used for the analysis of 60 LGDaF definitions (cf. 4.3.3.). Every fourth word on every tenth page, starting from the letter 'd' was selected for the checklist (cf. Appendix 8.1.). It was first examined whether *Pons* contains ineffective features. As the first criterion of ineffectiveness the defining vocabulary of these twenty words was examined. It was found that 21 percent of the 102 words used in the definitions were not part of the Basic Word List. The second criterion are derivational definitions. There were two such definitions in the twenty words. There was an unknown superordinate in one of nine noun definitions. As far as the positive criteria are concerned, the *Pons* dictionary lists equivalents frequently in the way that was found effective for intermediate learners, i.e. in initial position. This is due to its defining style, in which equivalents are frequently presented instead of definitions. This would make the *Pons* dictionary extremely effective for intermediate learners, according to the findings of this research. However, in three cases out of the twenty words, the equivalents are not part of the Basic Word List and seem to be more infrequent than the target word. Redundancies and examples are not part of the definitions in the *Pons* dictionary.

This excursus illustrated that, once an evaluation checklist is available, the assessment of a dictionary is neither time-consuming nor difficult. After examining the twenty words, it became rather obvious that the *Pons* dictionary cannot be used without problems, mainly lexical ones, by learners at the elementary or intermediate proficiency levels.

In order to develop a complete model of dictionary effectiveness, future research would have to investigate the possible combination of factors in the proposed model (Figure 8.1.).

8.4.2. The NDefs as a suitable defining style for intermediate learners

It has been pointed out in 8.2.1., that evidence for the effectiveness of some NDef features has still to be found, while the effectiveness of other features has been proven in this research. The overall results of this research show that a dictionary with the features of the NDefs is more appropriate for the intermediate proficiency level than a dictionary with the LGDaF's features. Since the NDefs were modelled on

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COBUILD's defining style, the results of this research also prove the suitability of COBUILD as a dictionary for intermediate learners.

In 8.2.1., it was also explained that the NDefs' defining style has some disadvantages. The first is a certain clumsiness or lack of authenticity of the defining language, caused by the restricted defining vocabulary. It was argued that this trade-off may have to be accepted because, with it, learners actually can understand the definitions. The fact that the full-sentence definition takes up far more space in a dictionary is regarded as another disadvantage. As argued before, if the full-sentence structure can be proven to be clearly more effective than the structures in lexicographic definitions, they should not be avoided for commercial reasons. According to Cummings et al (1994: 376), the online provision of dictionaries makes it possible to use as much space as necessary. Although in paper dictionaries space will presumably continue to be restricted, with the possibility of offering dictionaries online, future lexicographic work may be determined by user needs rather than by commercial considerations.

If a proper dictionary was to be developed with the definition style of the NDefs, certainly far more research would be needed, for instance into the corpus underlying the restricted defining vocabulary, or into the size of the defining vocabulary. Certainly, if the defining vocabulary could be enlarged, a less clumsy and more natural defining language could be achieved. As this research focused only on definitions, it would be also necessary to investigate how the other information categories should be presented in the most effective way. Generally, it can be said with certainty that a learners' dictionary with the features of the NDefs is needed for the German language. It was explained in 1.4.2., that the user market consists of more intermediate than advanced learners. For these learners, the LGDaF has been shown to be too difficult. A brief analysis of a second German dictionary, the *Pons*, also indicated that at least the defining vocabulary is inadequate. While there is a variety of English learners' dictionaries, of which certainly COBUILD, if not others, cater for intermediate learners, German learners' dictionaries so far do not fulfill the user needs of their largest target group, i.e. intermediate learners.

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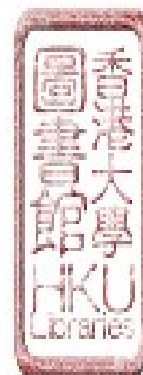
8.5. Limitations of the research

The limitations concerning the NDefs were discussed in the previous section. It has to be pointed out again that the major obstacle for German learner lexicography is the absence of a representative corpus of written and spoken language, from which a pedagogical word list for a defining vocabulary can be derived.

In the following sections, some methodological weaknesses in this research are first discussed, followed by the description of limitations in the scope of the research.

8.5.1. Limitations in the research methodology

The appropriateness of the test measures used in the first experiment (cf. 3.1.2.2.3., 3.1.2.2.4., 4.2.) is doubtful. The effectiveness of different dictionaries was measured by testing incidental vocabulary learning and reading comprehension as a factor of dictionary use. Although this methodology was, as a replication of Knight's (1994) study, justified for the sake of comparability between the two studies, it became evident that vocabulary test scores and reading comprehension scores do not reflect dictionary effectiveness directly enough. They are influenced by other variables, for instance memory or subjects' ability to guess word meanings from context (cf. 3.1.2.2.4.). In the main think-aloud study, it was possible to correlate the number of words understood from the dictionary with the vocabulary and reading comprehension test scores. No correlation was found with one of the two vocabulary tests and the reading comprehension test (cf. 6.1.4.). In other words, only one measure was valid to test dictionary effectiveness in the first experiment. Therefore, the results of the comparison between the bilingual and monolingual dictionaries (cf. 4.2.1., 4.2.2.) only partly reflect the effectiveness of the two dictionary types. This indirect methodology cannot be recommended for future research. By contrast, the measure adopted in the second experiment for the comparison of different monolingual definition styles is more suitable. By requiring the subjects to write down an equivalent or a paraphrase for the target word in their mother tongue, their understanding of the definition is tested directly (cf. 3.2.2.2.3.).

Methodological constraints prevented quantitative evidence being obtained to prove that some features in the LGDaF are detrimental to the understanding of the definitions. These features were text condensation (cf. 7.3.2.2.), encyclopedic

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definitions, and the entry lay-out (cf. 7.3.2.6.). Although the first two of these features created problems for individual subjects in the think-aloud studies, this could not be confirmed in the experiment for the following reasons: firstly, the number of target words to test individual hypotheses was too small. Secondly, in order to prove the ineffectiveness of individual definition features, more fine-tuned methods are needed. For instance, as already argued in 7.3.2.6., a different test method is required to demonstrate that learners cannot locate individual word meanings in crowded entries of polysemous words. In order to prove the negative effect of text condensation and encyclopedic definitions, it is necessary to manipulate the definitions and properly isolate these features. Consequently, the hypotheses that the avoidance of these features in the NDefs was beneficial for intermediate learners could also not be substantiated.

Another limitation is certainly the small number of subjects in the first experiment. As discussed in 3.1.2.3., only 46 subjects of the same background could be gathered for the first experiment. Because of the small sample size, the data did not have a normal distribution, so that they could only be analysed with a less sensitive non-parametric test. Therefore, the results of the experiment remain tentative. It would be worthwhile repeating the experiment with a larger sample in order to confirm the finding that the German-English bilingual dictionary is not significantly more effective than the monolingual dictionary for Hong Kong Chinese learners.

8.5.2. Limitations in the scope of this research

The limitations in the scope of this research are obvious through the proposed model of dictionary effectiveness (cf. 8.4.1.). The research covers only one aspect of each of the three factors in the model; i. e. one proficiency level, one activity, and one information category. It also covers only one stage of the intermediate proficiency level. The research focused on learners who had received 460 - 560 hours of instruction. Taking into consideration that students are regarded as advanced only after approximately 800 hours of instruction (cf. 1.4.2.), the subjects of this research were actually at the lower-intermediate level. The results might be different at the upper-immediate level or after approximately 200 more hours of instruction. At this stage learners are presumably able to cope far better with monolingual dictionaries in

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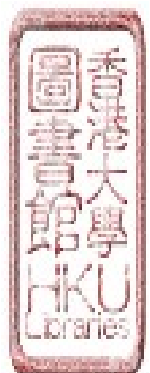
general, and may have a sufficiently large vocabulary to understand most of the LGDaF's definitions.

The research has concentrated entirely on definitions, without considering how much other information categories presented in dictionary entries, for instance examples, can contribute to the understanding of the target word's meaning. This limitation, however, is justified in the present research framework, because dictionary use was observed without prior instructions or training. It turned out that without such training, the subjects did not take much notice of other information categories. In other words, examples and other types of information can only contribute to better understanding, if the learners are trained to make use of them.

Investigating the influence of other information categories on the understanding of target words is of great importance in light of the integrative concept of understanding the target word through the combined information in the entry, as promoted by the editors of the LGDaF (cf. 5.1.6., 8.1.2.2.). Particularly, examples can be expected to contribute to the understanding of the unknown word.

8.6. Recommendations for further research
Future research should identify more details about the most effective definition style for intermediate learners, as well as for other proficiency levels. Not all factors in definitions that facilitate or impede their understanding could be identified by this research. Those definition features for which, due to methodological constraints in this research, evidence could not be found should be reexamined with different methodologies (cf. 8.4.1.). It is also important to investigate in more detail whether the complex syntactic structures of the LGDaF affect learners' comprehension, or whether the defining vocabulary is the dominant factor determining success or failure. Structures in the LGDaF which are especially complex, such as the dependency of more than one subordinate clause on a superordinate noun (cf. 5.1.1.), or the dependency of more than one prepositional phrases on a past participle (cf. 6.2.2.4.), should be isolated as far as possible from other influencing factors and be compared directly with full-sentence definitions.

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It must be noted again that one of the most important prerequisites for an effective German learner lexicography is a representative corpus of spoken and written language from which a controlled defining vocabulary can be derived. At present, lexicographers have to rely on their own judgement as to which words should be included in the macrostructure of learners' dictionaries, and which words should be used in the defining vocabulary.

The disadvantages of a restricted defining vocabulary were discussed in 8.2.1. An important avenue for future research is to investigate the effectiveness of illustrations in learners' dictionaries. As Kühn (1998: 38) points out, especially concrete nouns, such as 'book, window, bottle, chair' are explained in the most clumsy manner and with infrequent vocabulary in the LGDaF. It is almost impossible to describe the physical appearance of such words with a restricted defining vocabulary, and this certainly creates unnatural language. An illustration, on the other hand, can replace linguistically difficult definitions.

As mentioned in 8.4.2., the effectiveness of bilingual dictionaries, especially those where words are explained in the mother tongue of learners, should be further investigated. For reasons explained in 8.2.2., the investigation of the effectiveness of bilingualised dictionaries for intermediate learners would be of special interest.

Another research desideratum concerns the threshold levels for the use of different dictionary types. In view of the fact that two new German learners' dictionaries were published recently, it would be useful to determine at which proficiency levels they can be used successfully. In order to identify the threshold levels for different dictionaries, the methodology used in the second experiment of this research could be replicated at different proficiency levels, such as the upper-intermediate and advanced levels.

The proposed model of dictionary effectiveness implies further research desiderata. As mentioned in 8.5.2., this research has contributed one component to the model, by investigating one of several combinations of factors. Future research studies should contribute more components by investigating the effectiveness of other information

categories in different dictionaries for different proficiency levels. Such research would eventually lead to a comprehensive model of dictionary effectiveness.

In summary, this research has provided insights into the user needs of intermediate learners looking up the meaning of words for reading comprehension. As a side-product, the research has also revealed information about intermediate learners' reference skills. It was demonstrated that the actual user needs and reference skills often do not coincide with lexicographers' and educators' assumptions. From the insights of this research, some lexicographic and pedagogical recommendations were derived. These recommendations were used as a starting point for, or the first component of, a proposed model of dictionary effectiveness. Much research still needs to be done in order to complete the proposed model, and thus to achieve a full understanding of what makes dictionaries effective for different proficiency levels and different activities. In view of the importance of the dictionary as a teaching and learning aid, a thorough knowledge of dictionary effectiveness is essential. It will enable lexicographers to design effective dictionaries, and teachers to recommend appropriate dictionaries to their learners.
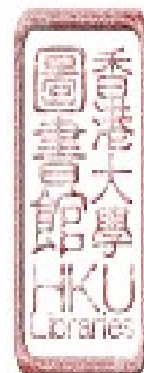
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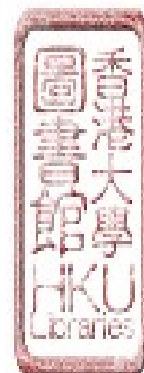
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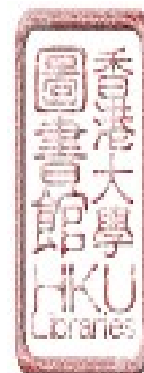
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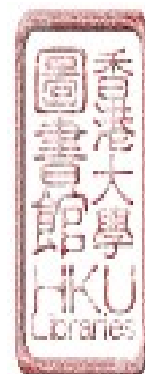
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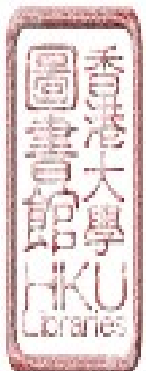
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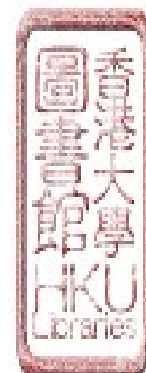
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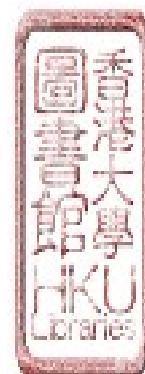
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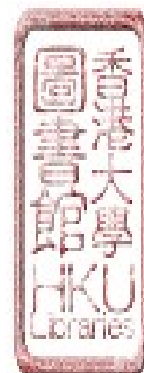
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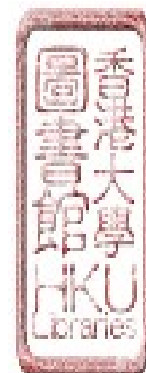
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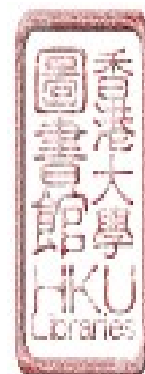
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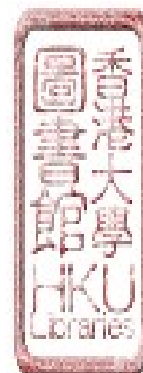
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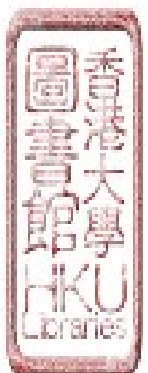
Appendix 3.1.

Questionnaire on Dictionary Use

This questionnaire is part of a research project on dictionary use by foreign language learners. Your information is very important for this project. It will be treated as strictly confidential.

1. Age: _____

2. Sex: m ☐ f ☐

3. Educational level:

Higher Degree	☐
Tertiary Level	☐
HKALE	☐
Form 5	☐
Form 3	☐
Others: _____	

4. Final grade in English: HKALE (Use of English):
   HKCEE:
   Others:

5. Which languages do you know?

_____

6. Which language(s) are you currently studying?

_____

7. **Which dictionary do you mainly use for English:**
   a. monolingual English dictionary ☐
   b. bilingual Chinese-English/ English-Chinese dictionary ☐

   Name of dictionary: _____
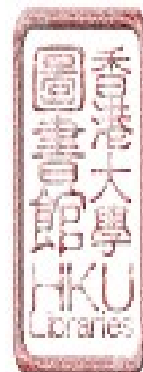
8. Were you taught how to use a dictionary?   Yes ☐

                                                                         No ☐

9. If yes, where were you taught to use a dictionary? Please tick.

	Primary school	Secondary school	University	Language school
Bilingual dictionary				
Monolingual dictionary				

10. Which dictionary do you mainly use for German:

        a. monolingual German dictionary   ☐

        b. bilingual Chinese-German/ German-Chinese dictionary ☐

        c. bilingual English-German/ German-English dictionary   ☐

Name of dictionary: _____

11. Have you ever tried to work with a monolingual German dictionary?

                                      Yes ☐

                                      No   ☐

12 . Please give reasons why you use/do not use these dictionaries:

a.   monolingual German dictionary

b. bilingual Chinese-German/ German-Chinese dictionary:

c. bilingual English-German/ German-English dictionary:

13. Which types of information do you look for most often in this dictionary? Please tick.

	very often	often	Sometimes	Rarely	never
Meaning					
Grammar					
Spelling					
Pronunciation					
Examples					

Others (please specify):

14. Which aspects do you find good in the dictionary you are using?

15. Which aspects should be improved?

Thank you!
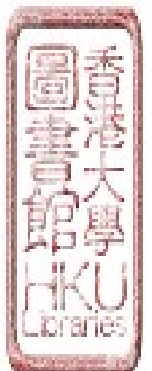
Thailand
Kinderarbeit für Eden?
Schwere Vorwürfe gegen einen Textillieferanten für Kauf- und Versandhäuser in Deutschland

Die thailändische Firma von Adam Lisowkski lief gut, ein „Riesenbusineß", wie er sagt: rund 100 Millionen Umsatz im Jahr, in den besten Zeiten 4500 Angestellte und Verträge mit Versand- und Kaufhäusern in Europa. Die Eden-Gruppe produzierte jedes Jahr Millionen von Textilien.

Die guten Zeiten sind vorbei: Lisowski hat Thailand fluchtartig verlassen, er wird von der Polizei wegen „Verstoßes gegen das Arbeitsgesetz" gesucht. Die Eden-Gruppe in Thailand ist aufgelöst, deutsche Kunden sind irritiert.

Um Produktionskosten zu sparen, hatte der Österreicher angeblich in Hinterhöfen arbeiten lassen. Elf- bis zwölfjährige Kinder sollen dort zwölf Stunden am Tag geschuftet haben.

„Kinderarbeit? Ein schlechter Witz", sagt Lisowski. Er spricht von einer „Schmierenkampagne", die seine Arbeiter und die Gewerkschaft gegen ihn losgetreten hätten. „Ich weiß nicht, was in jedem Hinterhof geschieht", so Lisowski, aber er glaube nicht, daß seine Subunternehmer Kinder beschäftigen. Vielleicht hätten Näherinnen ihre Kinder mit zur Arbeit gebracht, versucht der Manager das Rätsel zu klären. „Wissen Sie, es gibt in Thailand keine Kindergärten. Es kann sein, daß die Kleinen ein bißchen gespielt haben."

Lisowski war kein Unbekannter. Bei thailändischen Unternehmen bestellte der 40jährige Textilien, die er nicht bezahlt haben soll. Etwa 52 Millionen Mark Schulden soll die Eden-Gruppe bei der Thai Military Bank in Bangkok hinterlassen haben.

Das Geschäft geht weiter, versichert Manager Adi Haft in einem Brief an die Kunden. Die Produktion wird nun in andere Billiglohnländer verlegt.

Viele Kunden wollen mit Lisowski nichts mehr zu tun haben. „Wir ziehen uns von der Firma zurück", kündigt Quelle-Sprecher Erich Jeske an. Auch der Otto-Versand will „alle Geschäftsbeziehungen abbrechen". „Die Indizien sind so stark. Wir sind sicher, daß die Vorwürfe nicht aus der Luft gegriffen sind", sagt Sprecher Detlev von Livonius.

FOCUS 51/1996 (leicht gekürzt)
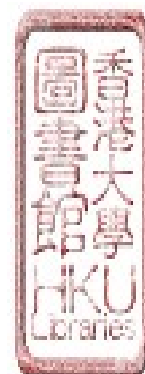
Nüchtern in den Tag
Gesunde Ernährung ist unbeliebt: Viele Jugendliche verzichten aufs Frühstück und essen „zwischendurch"

In den Tag ohne Frühstück

Frühstück ist out, Fast food ist in. Zu diesem Ergebnis kommen die Autoren einer zweijährigen Studie zur Ernährung von Teenagern in St.Gallen (Schweiz). Zwischen 1994 und 1996 befragten die Wissenschaftler 1862 Schüler im Alter von 13 bis 19 Jahren. Der Trend: Mit zunehmendem Alter starten die Jugendlichen nüchtern in den Tag, knabbern zur großen Pause höchstens einen Riegel, ernähren sich mittags aus dem Supermarkt und futtern abends vor dem Fernseher Chips.

Gesundes ist unbeliebt

Gesunde Nahrungsmittel wie Vollkornbrot, Getreide, Gemüse und Fisch sind bei den meisten Teenies ebenso unbeliebt wie Milch, Jogurth und Käse. 70 Prozent der Jungen und 40 Prozent der Mädchen kaufen sich statt dessen lieber Sandwiches. Die Experten aus St.Gallen schlagen Alarm: „Wir haben eine deutliche Unterversorgung an Kalzium und Vitamin B festgestellt", sagt Ernährungsberaterin Anneco ter Velde. Vielen Mädchen fehlt zudem Eisen. Insgesamt ernähren sich die Jugendlichen zu fett, nehmen aber zu wenig Kohlenhydrate und Eiweiß zu sich.
Kein Wunder, daß ein Drittel der Mädchen und sieben Prozent der Jungen mit ihrem Aussehen unzufrieden sind. 57 Prozent der befragten Jugendlichen hatten bereits eine Diät hinter sich.

Aufklärung für Jugendliche

Crash-Kuren lösen das Problem freilich nicht. Auch eine Umstellung der Eßrituale dürfe schwierig sein. „Wir können nicht drei Mahlzeiten pro Tag empfehlen, weil wir dann die Realität übersehen", so Anneco ter Velde. Die St.Gallener wollen die Gewohnheiten steuern - mit Aufklärung.

FOCUS 46/1996
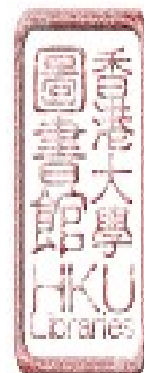
Appendix 3.4. Pretest

Name:					
	ja	nein		ja	nein
1. Chips			47. Umstellung		
2. ankündigen			48. ploggen		
3. Eisen			49. Vollkornbrot		
4. stelken			50. verzichten		
5. Fahrschule			51. Stoff		
6. Kohlenhydrat			52. hinterlassen		
7. versichern			53. angeblich		
8. nüchtern			54. auflösen		
9. alleine			55. Aufklärung		
10. Kur			56. trankern		
11. Basiertheit			57. gartlich		
12. Eßritual			58. insgesamt		
13. Versandhaus			59. Nahrungsmittel		
14. schuften			60. lostreten		
15. knabbern			61. geschehen		
16. Ofen			62. zunehmend		
17. unbeliebt			63. Kampagne		
18. in die Luft gehen			64. Kunde		
19. Riegel			65. behaupten		
20. gröde			66. sparsam		
21. Schulden			67. Verstoß		
22. deutlich			68. regelmäßig		
23. persönlich			69. Valktum		
24. bretten			70. stattfinden		
25. Subunternehmer			71. Eiweiß		
26. notwendig			72. zerregeln		
27. feststellen			73. unbekannt		
28. Lorgung			74. Indiz		
29. Verletzung			75. überweisen		
30. fluchtartig			76. gut laufen		
31. Ernährung			77. Umsatz		
32. unterschreiben			78. Herausforderung		
33. Getreide			79. produzieren		
34. verdrungen			80. Ergeblick		
35. aus der Luft greifen			81. Wunder		
36. steuern			82. Vorwurf		
37. Erkundheit			83. betreuen		
38. herauskommen			84. Gewerkschaft		
39. lostreten			85. grüßen		
40. Rätsel			86. Gewohnheit		
41. Konsequenz			87. Arbeitsgesetz		
42. Unterversorgung			88. großzügig		
43. abbrechen			89. vergrundbar		
44. Hinterhof			90. steuern		
45. ausgezeichnet			91. Gegenteil		
46. irritieren			92. futtern		
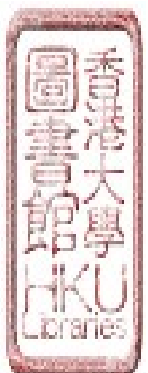
Appendix 3.5. Supply-definition test

Name: _____

Please define or explain the following words in either English or German:

1. ankündigen

2. Aufklärung

3. schuften

4. Rätsel

5. abbrechen

6. futtern

7. Kohlenhydrat

8. aus der Luft gegriffen

9. nüchtern

10. Vorwurf

11. Riegel

12. auflösen

13. Verstoß
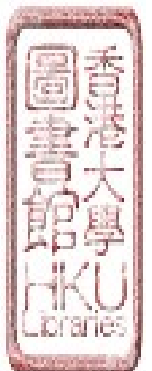
14. knabbern

15. Schmierenkampagne

16. Umstellung

17. angeblich

18. Indiz

19. Eßritual

20. fluchtartig

21. Getreide

22. Unterversorgung

23. Ernährung
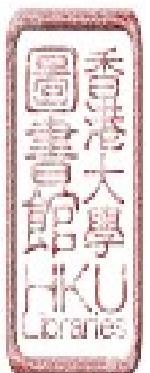
Appendix 3.6.   Select-definition test

Please tick the right answer. If you do not know the word, tick 'e'.

1. ankündigen

   a. besprechen
   b. mitteilen
   c. irritieren
   d. herauskommen
   e. weiß ich nicht!

2. Aufklärung

   a. Missverständnis
   b. Aufgaben
   c. Sendung
   d. Informationen
   e. weiß ich nicht!

3. schuften

   a. schwer arbeiten
   b. fliehen
   c. schützen
   d. laut rufen
   e. weiß ich nicht!

4. Rätsel

   a. Rat
   b. Glaube
   c. Geheimnis
   d. Gedicht
   e. weiß ich nicht!

5. abbrechen

   a. bremsen
   b. beenden
   c. abnehmen
   d. töten
   e. weiß ich nicht!

6. futtern

   a. viel und mit Appetit essen
   b. jemandem viel zu essen geben
   c. einem Tier etwas zu fressen geben
   d. einem Baby zu essen geben
   e. weiß ich nicht!

7. Kohlenhydrat

   a. ein Stoff, mit dem man im Winter heizt
   b. ein Stoff, der den Körper mit Energie versorgt
   c. eine Flüssigkeit, die man trinken kann
   d. ein Medikament
   e. weiß ich nicht!
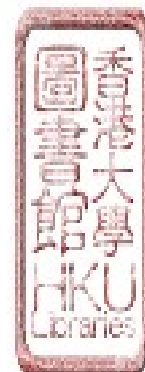
8. aus der Luft gegriffen

    a. etwas ist plötzlich nicht mehr da
    b. etwas wurde schnell entschieden
    c. etwas ist nicht wahr
    d. etwas hat sich geändert
    e. weiß ich nicht!

9. nüchtern

    a. mit großem Appetit
    b. mit leerem Magen
    c. wahrscheinlich
    d. unwichtig
    e. weiß ich nicht!

10. Vorwurf

    a. jemanden an etwas erinnern
    b. sagen, daß jemand etwas falsch gemacht hat
    c. jemanden um etwas bitten
    d. bei jemandem Schulden haben
    e. weiß ich nicht!

11. Riegel

    a. ein langes Stück Brot
    b. ein langes Stück Schokolade
    c. eine Sorte Joghurt
    d. eine Scheibe Käse
    e. weiß ich nicht!

12. auflösen

    a. abnehmen
    b. aushalten
    c. aufgeben
    d. bestimmen
    e. weiß ich nicht!

13. Verstoß

    a. einen Unfall haben
    b. gegen etwas stoßen
    c. sich verletzen
    d. das Gesetz verletzen
    e. weiß ich nicht!

14. knabbern

    a. etwas gern essen
    b. kleine Stücke von etwas essen
    c. etwas nicht mögen
    d. etwas wegwerfen
    e. weiß ich nicht!

15. Schmierenkampagne

    a. eine unehrliche Aktion gegen jemanden
    b. eine schmutzige Straße
    c. ein schlechter Witz
    d. ein neues Gesetz
    e. weiß ich nicht!
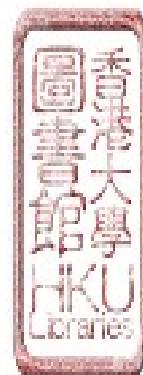
16. Umstellung

a. Umleitung
b. Umzug
c. Handel
d. Änderung
e. weiß ich nicht!

17. angeblich

a. unglaublich
b. wie jemand behauptet
c. anstrengend
d. wie schon gesagt
e. weiß ich nicht!

18. Indiz

a. ein Fehler, den jemand gemacht hat
b. eine besonders gute Idee
c. ein Hinweis auf ein Verbrechen
d. eine schwierige Situation
e. weiß ich nicht!

19. Eßritual

a. eine feste Gewohnheit, mit der man ißt .
b. eine Einladung zum Abendessen
c. ein besonders gutes Essen
d. ein Rezept
e. weiß ich nicht!

20. fluchtartig

a. feindlich
b. fertig
c. sehr klug
d. sehr schnell
e. weiß ich nicht!

21. Getreide

a. ein positiver Kommentar
b. eine schwierige Frage
c. ein Fleischgericht
d. verschiedene Sorten von Körnern
e. weiß ich nicht!

22. Unterversorgung

a. jemand arbeitet viel, um seine Familie zu versorgen
b. jemand verdient weniger Geld als seine Kollegen
c. jemand bekommt nicht genug von dem, was er braucht
d. jemand hat wenig Geld, aber niemand hilft ihm
e. weiß ich nicht!

23. Ernährung

a. Erziehung
b. Erfahrung
c. Erfolg und Einkommen
d. Essen und Trinken
e. weiß ich nicht!
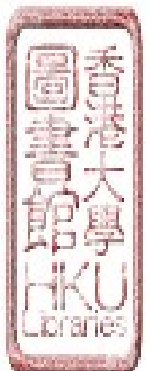
Appendix 3.7.: Immediate recall protocols (Text 1)

Please write down in English everything you remember form Text 1:
Kinderarbeit für Eden
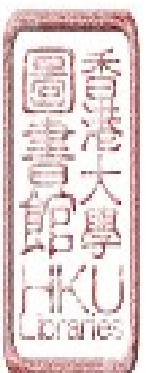
Immediate recall protocols (Text 2)

> **Please write down in English everything you remember form Text 2:**
> *Nüchtern in den Tag*

Reading Test

Personal Details   Test

Content:

Please read the following text. You can take as much time for reading as you like.
There is an explanation available for some of the words which you might not know.
You can call up that explanation by highlighting or double-clicking the word and
then double-clicking the explanation button. Make sure you highlight the word
precisely.
After you have finished reading, please exit the program by clicking on "Personal
Details". Please leave Disk 2 in the disk drive and exit WINDOWS. Then write down
on Worksheet 2 everything you remember from the text.

Nüchtern in den Tag
Gesunde Ernährung ist unbeliebt: Viele Jugendliche verzichten aufs

Word Explanation:

p

Please double-click the
word click the button
below key to display
or phrase

Tell me the explanation
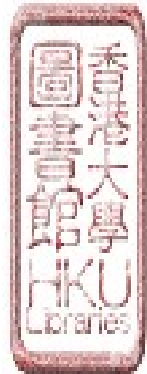
Appendix 3.9. Checklist for reading comprehension

Text 1: Kinderarbeit für Eden

1. **Die thailändische Firma von Adam Lisowski/EdenGruppe lief
(früher gut** _____ (3)
1.1. ein "Riesenbusineß", wie er sagt: _____ (1)
1.2. rund 100 Millionen Umsatz, _____ (1)
1.3. in den besten Zeiten 4500 Angestellte _____ (1)
1.4. und Verträge mit Versand-- und Kaufhäusern in Europa/Deutschland _____ (1)
1.5. Die Eden-Gruppe produzierte jedes Jahr Millionen von Textilien. _____ (1)

2. **Lisowski hat Thailand fluchtartig verlassen** _____ (3)
2.2. er wird von der Polizei gesucht _____ (2)
2.3. wegen Verstoßes gegen das Arbeitsgesetz. _____ (2)
2.3. Die guten Zeiten sind vorbei: _____ (1)
2.5. Schwere Vorwürfe gegen Textillieferanten _____ (1)
2.6. Die Eden-Gruppe ist aufgelöst _____ (2)
2.7. _deutsche Kunden sind irritiert._ _____ (1)

3. **Um Produktionskosten zu sparen,** _____ (3)
3.1. hatte der Österreicher angeblich in Hinterhöfen arbeiten lassen. _____ (1)
3.2. **Elf- bis zwölfjährige Kinder sollen dort zwölf Stunden am Tag
geschuftet haben.** _____ (4)

4. "Kinderarbeit? Ein schlechter Witz", sagt Lisowski. _____ (1)
4.1. Er spricht von einer Schmierenkampagne, die seine Arbeiter und die
Gewerkschaft gegen ihn losgetreten hätte. _____ (2)
4.2. "Ich weiß nicht, was in jedem Hinterhof geschieht", so Lisowski, _____ (1)
4.3. aber er glaube nicht, daß seine Subunternehmer Kinder beschäftigten. _____ (1)
4.4. _Vielleicht hätten Näherinnen ihre Kinder mit zur Arbeit gebracht,_ _____ (1)
4.5. versucht der Manager das Rätsel zu klären. _____ (1)
4.6. "Wissen Sie, es gibt in Thailand keine Kindergärten. _____ (1)
4.7. Es kann sein, daß die Kleinen ein bißchen gespielt haben". _____ (1)

- 5. Lisowski war kein Unbekannter. _____ (1)
5.1. Bei thailändischen Unternehmen bestellte der 40jährige Textilien, die
er nicht bezahlt haben soll. _____ (2)
5.3. **Etwa 52 Millionen Mark Schulden soll die Eden-Gruppe bei der
Thai Military Bank hinterlassen haben.** _____ (3)

6. Das Geschäft geht weiter, versichert Manager Adi Haft in einem Brief
. an die Kunden. _____ (1)
6.1. _Die Produktion wird in andere Billiglohnländer verlegt._ _____ (2)

7. **Viele Kunden wollen mit Lisowski nichts mehr zu tun haben,** _____ (3)
7.1. "Wir ziehen uns von der Firma zurück", kündigt Quelle-Sprecher Erich
Jeske an. _____ (1)
7.2. Auch der Otto-Versand will alle Geschäftsbeziehungen abbrechen. _____ (1)
7.3. "Die Indizien sind so stark. Wir sind sicher, daß die Vorwürfe nicht
aus der Luft gegriffen sind", sagt Sprecher D.v. Livonius _____ (1)

_____
52

349
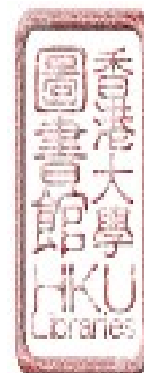
Appendix 3.9.
Text 2: Nüchtern in den Tag

1. Ergebnis einer zweijährigen Studie zur Ernährung von Teenagern in St.Gallen: _____ (2)
   1.1. Frühstück ist out, fast food ist in. _____ (1)
   1.2. Zwischen 1994 und 1996 befragten die Wissenschaftler 1862 Schüler im Alter von 13 bis 19 Jahren. _____ (2)
   1.3. Der Trend: _____ (1)
   1.4. Mit zunehmendem Alter _____ (1)
   1.5. starten die Jugendlichen nüchtern in den Tag/ verzichten aufs Frühstück _____ (1)
   1.6. knabbern zur großen Pause höchsten einen Riegel (Schokolade) _____ (1)
   1.7. ernähren sich mittags aus dem Supermarkt _____ (1)
   1.8. und futtern abends vor dem Fernseher Chips. _____ (1)

2. **Gesundes ist (bei den meisten Teenies) unbeliebt** _____ (3)
   2.1. Vollkornbrot, Getreide, Gemüse, Fisch sind unbeliebt _____ (1)
   2.2. Milch, Jogurth, Käse sind unbeliebt. _____ (1)
   2.3. 70 Prozent der Jungen und 40 Prozent der Mädchen kaufen sich statt dessen lieber Sandwiches. _____ (1)

3. **"Wir haben eine deutliche Unterversorgung festgestellt", sagen die Experten.** _____ (3)
   3.1. an Kalzium und Vitamin B. _____ (1)
   3.2. Vielen Mädchen fehlt zudem Eisen. _____ (1)
   3.3. Jugendliche nehmen zu wenig Kohlenhydrate und Eiweiß zu sich. _____ (1)
   3.4. Insgesamt ernähren sich die Jugendlichen zu fett. _____ (1)

4. Kein Wunder, daß ein Drittel der Mädchen und 7 Prozent der Jungen mit ihrem Aussehen unzufrieden sind. _____ (2)
   4.1. 57 Prozent der befragten Jugendlichen hatten bereits eine Diät hinter sich. _____ (1)

5. Eine Umstellung der Eßrituale dürfte schwierig sein. _____ (2)
   5.1. Crash-Kuren lösen das Problem nicht. _____ (1)
   5.2. "Wir können nicht drei Mahlzeiten pro Tag empfehlen, _____ (1)
   5.3. weil wir dann die Realität übersehen", sagt A.t.V. _____ (1)

5.4. **Die St.Gallener wollen die Gewohnheit mit Aufklärung steuern.** _____ (3)

_____
35
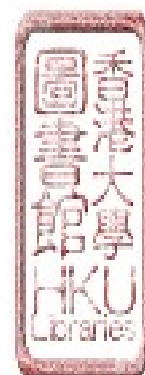
請閱讀 "文章1". 若有不懂的詞,
可在新詞表上查閱. 請用中文解釋以下單詞的
意義, 並以 'ˇ' 号標示您是否使用過新詞表.

Name:_____

	是否使用過新詞表?	
1. Vorwurf	ja	nein
2. lief gut	ja	nein
3. fluchtartig	ja	nein
4. Verstoß	ja	nein
5. irritieren	ja	nein
6. angeblich	ja	nein
7. schuften	ja	nein
8. lostreten	ja	nein
9. abbrechen	ja	nein
10. Indiz	ja	nein
11. aus der Luft gegriffen	ja	n

Name:_____

1. nüchtern	ja	nein
2. unbeliebt	Ja	nein
3. zunehmend	Ja	nein
4. Riegel	Ja	nein
5. Unterversorgung	Ja	nein
6. Eiweiß	Ja	nein
7. Aufklärung	Ja	nein
8. Kur	Ja	nein
9.(Eß-) Ritual	Ja	nein
10. steuern	Ja	nein

Appendix 3.11. Reading comprehension tests

Text 1: *Kinderarbeit für Eden?*

Sind die Aussagen richtig oder falsch?

	Richtig	Falsch
1. Die Firma von Adam Lisowski war früher sehr erfolgreich.	☐	☐
2. Zu der Firma gehören Versand- und Kaufhäuser in Europa	☐	☐
3. Lisowski ist schnell aus Thailand geflohen, weil er von der Polizei gesucht wird.	☐	☐
4. Es wird behauptet, dass Kinder für die Firma gearbeitet haben.	☐	☐
5. Lisowski hat einen Kindergarten für die Kinder seiner Angestellten eröffnet.	☐	☐
6. Lisowski sagt, dass seine Subunternehmer Kinder in Hinterhöfen beschäftigen.	☐	☐
7. Lisowski ist der Polizei schon bekannt, weil er bei einer Bank in Bangkok große Schulden hinterlassen hat.	☐	☐
8. Die Firma wird trotzdem weiter in Thailand produzieren.	☐	☐
9. Die Versand-und Kaufhäuser aus Deutschland wollen mit der Eden-Gruppe keine Geschäfte mehr machen.	☐	☐
10. Sie glauben, dass die Vorwürfe gegen Lisowski wahr sind.	☐	☐
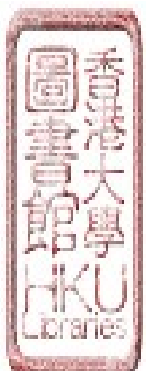
Text 2: *Nüchtern in den Tag*

Sind die Aussagen richtig oder falsch?

	Richtig	Falsch
1. In der Schweiz haben Wissenschaftler eine Umfrage über die Essgewohnheiten von Jugendlichen gemacht.	☐	☐
2. Je älter die Teenager werden, desto unregelmäßiger ernähren sie sich.	☐	☐
3. Die meisten Jugendlichen verzichten aufs Frühstück und aufs Mittagessen.	☐	☐
4. Teenager mögen lieber Milchprodukte als Gemüse und Fisch.	☐	☐
5. Wegen ihrer schlechten Ernährung bekommen die jungen Leute nicht genug Kalzium.	☐	☐
6. Vor allem Mädchen essen zu viel Eiscreme.	☐	☐
7. Über die Hälfte der jungen Leute haben schon einmal eine Diät gemacht.	☐	☐
8. Ernährungsberater empfehlen jetzt den Jugendlichen, drei Mahlzeiten am Tag zu essen.	☐	☐
9. Es ist wahrscheinlich schwer, die Eßgewohnheiten der jungen Leute zu verändern.	☐	☐
10. Nur wenn die Jugendlichen über gesunde Ernährung informiert werden, werden sie vielleicht ihre Gewohnheiten ändern.	☐	☐
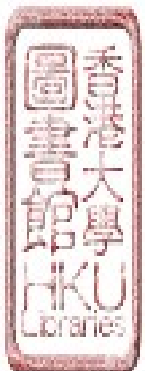
Appendix 4.1.

Spot check list of 60 LGDaF definitions

In the 60 definitions, defining vocabulary which is not part of the Basic Word List, is underlined. Derivational definitions are marked with the symbol *, while unknown superordinates are marked with **.

1. **deckungsgleich** völlig <u>identisch</u> in Form und Größe
2. **dienlich** etw. ist für j-n/ etw. e-e Hilfe od. von <u>Nutzen</u>
3. **dranhängen** etw. um den genannten Zeitraum verlängern
4. **durchfahren** von einer Grenze e-s Gebietes zur anderen fahren od. innerhalb e-s Gebietes von einem Punkt zu e-m anderen fahren
5. **eh** ≈ <u>ohnehin</u>, <u>sowieso</u>
6. **eingefleischt** so, daß sie nicht mehr zu ändern sind
7. **Einstieg** die Tür od. <u>Öffnung</u>**, durch die man in ein *mst* <u>relativ</u> großes <u>Fahrzeug</u>, z.B. e-n Autobus, ein Flugzeug, e-e Straßenbahn einsteigt
8. **Ensemble** e-e Gruppe von Künstlern, *mst* <u>Musikern</u> od. <u>Tänzern</u>, die gemeinsam <u>auftreten</u>
9. **erfassen** das Wesentliche e-r Sache verstehen
10. **Erschöpfung** ein Zustand sehr großer <u>körperlicher</u> od. <u>geistiger Müdigkeit</u>
11. **experimentell** so (<u>angelegt</u>), daß sie <u>Experimente</u> als Mittel der <u>Forschung</u> verwenden
12. **Familienstand** der soziale <u>Status</u>** e-r Person <u>im Hinblick darauf</u>, ob sie ledig, verheiratet, <u>geschieden</u> od. <u>verwitwet</u> ist
13. **festgurten** sich (mit e-m <u>Gurt</u>) so an den Sitz <u>binden</u>, daß man <u>Halt</u> hat
14. **Flosse** eines von mehreren <u>fächerförmigen</u> <u>Organen</u> am Körper von <u>Wassertieren</u>, *bes* Fischen, mit denen sie sich durch das Wasser bewegen
15. **freibekommen** erreichen, daß j-d seine Freiheit wieder bekommt
16. **Fuhrpark** alle <u>Fahrzeuge</u>**, die *z.B.* e-e Firma hat
17. **Gartenarchitekt** j-d, der beruflich Gärten plant u. <u>gestaltet</u>
18. **Gemütsbewegung** ein Gefühl, das sich deutlich zeigt
19. **geschmeidig** voll Kraft u. <u>Eleganz</u>
20. **Gitterbett** ein Bett *bes.* für kleine Kinder, das außen von <u>Stäben</u> <u>umgeben</u> ist, damit das Kind nicht <u>herausfällt</u>
21. **Grashüpfer** ≈ <u>Heuschrecke</u>
22. **Gürtellinie** (*bes* beim <u>Boxen</u>) ein (verbotener) <u>Schlag</u>** in den <u>Unterkörper</u>
23. **Halterung** e-e <u>Konstruktion</u>**, die als <u>Halter</u> für etw. dient
24. **Haushaltsjahr** der Zeitraum, für den ein <u>bestimmter Etat</u>, Haushalt (4) <u>berechnet</u> ist
25. **herauslassen** etw. (nach längerem Zeitraum) aussprechen
26. **Herzenslust** *nur in* **nach H.** wie es sich j-d gerade wünscht
27. **hintenherum** *hinten um j-n/ etw <u>herum</u>
28. **Hoffnungsschimmer** ein bißchen Hoffnung
29. **Hygiene** die Wissenschaft, die sich damit beschäftigt, wie man (*bes* durch <u>Sauberkeit</u> und <u>Körperpflege</u>) die Gesundheit <u>erhalten</u> u. <u>fördern</u> kann
30. **inspizieren** (*mst* als Vertreter e-s <u>Amtes</u> *o.ä.*) <u>Truppen</u> *o.ä./* etw. (*bes* Räume) genau prüfen, um festzustellen, ob alles in Ordnung ist
31. **jetzt** verwendet *bes* in <u>Fragesätzen</u>, um <u>Verärgerung</u>, <u>Ungeduld</u>, od. <u>Verwunderung auszudrücken</u>
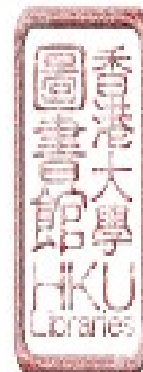
32. **Kapazität** ein <u>Experte</u>,** der sein <u>Fachgebiet</u> ausgezeichnet <u>beherrscht</u> u. dafür bekannt ist
33. **Kerker** ein <u>Gefängnis</u>**(*mst* unter der Erde), in dem <u>Gefangene</u> sehr <u>streng</u> behandelt wurden
34. **Kleinod** ein <u>Schmuckstück</u>**, das sehr <u>kostbar</u> ist
35. **Kommandant** j-d, der *bes* auf e-m (Kriegs-)Schiff, in e-m Flugzeug, in e-r Stadt *o.ä.* der <u>Leiter</u> e-r Gruppe von Personen ist
36. **konzertant** *in der Art u. <u>Weise</u> e-s Konzerts
<u>37.</u> **kreischen** mit lauter u. hoher Stimme <u>schreien</u>
38. **küren** j-n (aus)wählen, der e-n (<u>Ehren</u>)<u>Titel</u> *o.ä.* bekommen soll
39. **Last** Schweres, das j-d od. ein Tier tragen muß
40. **Leidensgenosse** j-d, der die gleichen Probleme od. das gleiche <u>Leid</u> hat wie ein anderer
41. **Litfaßsäule** *e-e dicke <u>Säule</u>** (an der Straße od. auf e-m Platz), an die man <u>Plakate</u> klebt
42. **madig** *mit <u>Maden</u> darin
43. **Massenabfertigung** das Erledigen e-r Arbeit für viele Menschen, ohne deren persönliche Wünsche zu berücksichtigen
44. **Menschenkette** e-e Reihe, die aus vielen Menschen besteht (die sich an den Händen halten)
<u>45.</u> **mitmögen** ≈ <u>mitwollen</u>
46. **mulmig** von (leichter) Angst erfüllt ≈ <u>unbehaglich</u>
47. **nachschleichen** j-m so folgen, daß er es nicht bemerkt
48. **Nebenberuf** *ein Beruf, den man <u>zusätzlich</u> zu e-m anderen (Beruf) <u>ausübt</u> ↔ Hauptberuf
49. **nirgendher** ≈ *<u>nirgendwoher</u>
50. **Objektiv** ein System von <u>Linsen</u> bei <u>optischen</u> <u>Geräten</u> (*z.B.* e-r Kamera)
51. **orientieren** j-n/ sich über etw. informieren
52. **Partei** e-e Organisation mit e-m politischen Programm, die von Menschen mit gemeinsamen politischen Zielen <u>gebildet</u> wurde
53. **Pflanzengift** *ein <u>Gift</u>**, das man aus Pflanzen macht
54. **polar** *<u>in bezug</u> auf einen der <u>Pole</u> (1) der Erde
55. **Primadonna** die wichtigste <u>Sängerin</u>** in e-r <u>Oper</u>, in e-m Theater
56. **Quader** ein Körper, der von sechs <u>Rechtecken</u> <u>begrenzt</u> ist
<u>57.</u> **Rauchfahne** *e-e große Menge <u>Rauch</u>, die wie e-e <u>Fahne</u> in der Luft <u>schwebt</u>
58. **-reif** <u>drückt aus</u>, daß j-d das im ersten <u>Wortteil</u> Genannte dringend braucht od. verdient
59. **Richter** j-d (ein Jurist), der im Gericht das Urteil <u>fällt</u>
60. **Ruder** e-e <u>Stange</u>** mit e-m breiten, flachen Teil am Ende, mit der man ein <u>Boot</u> bewegt
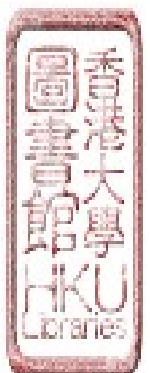
Appendix 5.1. LGDaF entries

abbrechen *Vt (hat)* **1** *etw. (von etw.)* **a.** etw. von etw. durch Brechen entfernen: *e-n dürren Ast a.* **2** *etw. a.* etw. (plötzlich) beenden, bevor das gewünschte Ziel erreicht ist <e-e Beziehung, ein Studium, e-e Verhandlung, e-e Veranstaltung a.> **3** *etw. a.* ein Gebäude zerstören, weil es nicht mehr benutzt werden kann od. um Platz für etw. anderes zu schaffen ≈ abreißen **4** *etw. a.* ≈ abbauen (2); *Vi* **5** *etw. bricht ab (ist)* etw. bricht u. löst sich dadurch von irgendwo: *Der Ast ist bei starkem Wind abgebrochen* **6** *etw. bricht ab (ist)* etw. bricht in zwei (od. mehr) Teile (i. wird so unbrauchbar) <ein Bleistift, ein Messer> **7** *etw. bricht ab (ist)* etw. hört plötzlich auf: *Die Musik brach plötzlich ab* **8** *j-d bricht (mitten in...)ab (hat)* j-d hört plötzlich mit etw. auf: *Er brach mitten im Satz ab* || ID *sich (Dat) einen a.* *gespr;* sich sehr, übermäßig anstrengen (oft weil man etw. nicht geschickt genug macht)

angeblich *Adj; nur attr od adv;* wie j-d behauptet (was jedoch nicht als sicher oder bewiesen gilt) ≈ vermeintlich: *ihr angeblicher Cousin; er ist a. sehr reich (aber ich glaube es nicht)*

ankündigen *(hat) Vt* **1** *etw. a.* ein bevorstehendes Ereignis (öffentlich) bekanntgeben <ein Konzert, seinen Besuch a.>: *die Veröffentlichung eines Buches a.* **2** *j-n / sich (bei j-m) a.* j-m mitteilen, dass j-d / man zu ihm (zu Besuch) kommen wird; *Vr* **3** *etw. kündigt sich an geschr;* bestimmte Anzeichen geben deutlich zu erkennen, dass etw. bald kommt: *Durch die ersten schweren Stürme im September kündigt sich der Herbst an* || *zu* 1 u. 2 **Ankündigung** *die*

Aufklärung *die;-, -en; mst Sg;* **1** das Aufklären (1) <die A. e-s Verbrechens, e-sw Mißverständnisses> || K-: *Aufklärungs-, -quote* **2** Informationen über bestimmte Probleme od. Situationen: *von der Regierung A. über den Arbeitsmarkt verlangen* || K-: *Aufklärungs-, -kampagne* **3** das Erklären sexueller Vorgänge (*mst* gegenüber Kindern) <A. betreiben>: *In der Schule gehört die A. zum Biologieunterricht* || K-: *Aufklärungs-, -buch, -film* **4** e-e geistige Strömung des 18. Jahrhunderts in Europa, die sich mit Vernunft u. naturwissenschaftlichem Denken gegen Aberglauben u. Absolutismus wandte ≈ Rationalismus: *das Zeitalter der A.* **5** *Mil;* die Beobachtung u. das Aufspüren der Orte, an denen sich Waffen u. Truppen des Gegners befinden || K-: *Aufklärungs-, -flugzeug, -satellit*

auflösen *(hat) Vt* **1** *etw. (in etw. (Dat)) a.* etw. in e-r Flüssigkeit vollständig zergehen lassen <Zucker in Kaffee, Honig in Tee a.>: *e-e Tablette in Wasser a.* **2** *etw. a.* e-e Veranstaltung *mst* mit autoritären Mitteln beenden: *Die Polizei löste die Demonstration auf* **3** *etw. a.* die Existenz e-r Organsiation (vorübergehend) beenden <e-e Partei, das Parlament a.> **4** *etw. a.* etw. für nicht mehr gültig erklären <e-n Vertrag a.> **5** *etw. a.* etw. Rätselhaftes verständlich od. durchschaubar machen ≈ aufklären (1) <ein Geheimnis, e-n Widerspruch, ein Rätsel a.> **6** *mst etw. ist aufgelöst Mus;* ein Vorzeichen ist wieder rückgängig gemacht: *Das b ist aufgelöst, du musst ein h spielen!; Vr* **7** *etw. löst sich (in etw. (Dat)) auf* etw. zergeht u. wird allmählich unsichtbar: *Salz löst sich in Wasser auf; Der Nebel hat sich schnell aufgelöst* **8** *etw. löst sich auf* etw. hört auf zu bestehen, geht zu Ende <e-e Organisation, ein Verein>: *Der Stau hat sich inzwischen aufgelöst* || *zu* 2 – 6 u. 8 **Auflösung** *die*

bereits *Partikel; unbetont;* **1** verwendet, um auszudrücken, dass etw. relativ früh od. früher als erwartet geschieht ≈ schon (1) ↔ erst: *Letztes Jahr schneite es b. im Oktober; Er kommt b. morgen, nicht erst übermorgen; Wir waren gerade erst angekommen, da wollte er b. wieder*
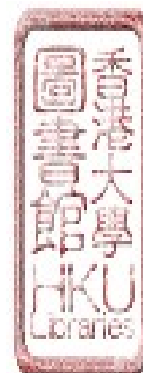
weg 2 verwendet, um auszudrücken, dass es später ist als erwartet = schon (2) ↔ noch nicht: *Oh, es ist b. sechs Uhr, eigentlich wollte ich noch einkaufen gehen; Es war b. Mitternacht, als sie ins Bett gingen* 3 verwendet, um auszudrücken, dass man (zu einem bestimmten Zeitpunkt) weniger erwartet hätte ≈ schon (1) ↔ erst: *Um acht Uhr hatte er b. drei Gläser Bier getrunken; Sie ist erst vierzig Jahre alt u. b. Großmutter* 4 verwendet, um auszudrücken, dass e-e Handlung zu e-m bestimmten Zeitpunkt abgeschlossen ist ≈ schon (2) ↔ noch nicht: *Als wir die Wohnung besichtigen wollten, war sie b. vergeben* 5 verwendet für den Zeitraum von der Vergangenheit bis zum Zeitraum der Äußerung od. für den Zeitraum in der Vergangenheit vor e-m anderen Ereignis: *Bist du b. in Amerika gewesen?; Ich hatte b. gehört, dass er die Firma verlässt, bevor man es mir offiziell mitteilte* 6 verwendet, um auszudrücken, dass etw. ein ausreichender Grund für e-e Aussage, Wirkung o.ä. ist: ≈ allein (2), schon (10): *B. der Gedanke daran ist mir zuwider; B. sehr geringe Mengen radioaktiver Strahlen können Krebs erzeugen*

**beschäftigen**;*beschäftigte, hat beschäftigt; Vt* 1 *j-n b.* j-m gegen Bezahlung Arbeit geben: *Der Betrieb beschäftigt 150 Personen* 2 *j-n (mit etw.) b.* j-m etw. zu tun geben: *Kinder muss man ständig b., damit sie sich nicht langweilen* 3 *etw. beschäftigt j-n* etw. ruft bei j-m Nachdenken hervor: *Diese Frage beschäftigt mich schon seit längerer Zeit* || NB: *zu* 3 kein Passiv!; *Vr* 4 *sich mit j-m b.* sich um j-n kümmern: *Unsere Oma beschäftigt sich viel mit ihren Enkeln* 5 *sich (mit etw.) b.* mit e-r Tätigkeit seine Zeit verbringen: *Er beschäftigt sich gern mit seinen Blumen; sich mit Büchern b.* 6 *sich mit etw. b.* intensiv und längere Zeit über etw. nachdenken ≈ sich mit etw. befassen: *Er beschäftigt sich mit mathematischen Problemen* 7 *etw. beschäftigt sich mit etw.* etw. hat etw. zum Inhalt: *Sein Aufsatz beschäftigt sich mit dem Verhältnis von Mensch u. Natur*

Beziehung *die; -, -en;* 1 *e-e B. (zwischen etw (Dat) u. etw. (Dat))* ein bestimmter, oft ursächlicher Zusammenhang zwischen zwei od. mehreren Phänomenen <etw. steht in B. zu etw.; etw. mit etw. in B. bringen; etw. zu etw. in B. setzen>: *die B. zwischen Wohlstand u. der Geburtenzahl untersuchen; die Wahlbeteiligung mit dem Wetter in B. setzen; Sein Selbstmord steht sicher in B. zu seiner langen Krankheit* 2 *mst Pl; Beziehungen (mit/zu j-m/etw)* bestimmte Verbindungen zwischen Personen, Gruppen, Institutionen od. Staaten <verwandschaftliche, freundschaftliche, wirtschaftliche Beziehungen; mit/ zu j-m Beziehungen aufnehmen, knüpfen, unterhalten; mit/ zu j-m in B. treten; die Beziehungen (zu j-m) abbrechen>: *die diplomatischen Beziehungen zu e-m Staat abbrechen; Die besseren internationalen Beziehungen ermöglichen Fortschritte bei der Abrüstung* || -K: *Geschäfts-, Verwandschafts-, Wirtschafts-* 3 *nur Pl; Beziehungen (zu j-m)* Kontakte zu j-m, die von Vorteil sind: *Er bekam e-n Ferienjob, weil er gute Beziehungen zum Chef der Firma hat* 4 *mst Sg; e-e B. (zu j-m/ etw.)* e-e *mst* positive innere Haltung gegenüber j-m/ etw.: *Zur abstrakten Kunst habe/ finde ich keine (rechte) B.* 5 *e-e B. (mit/ zu j-m)* mst sexuelle Kontakte zu j-m <e-e intime, sexuelle B. mit/ zu j-m haben/ unterhalten> || -K: *Zweier-, Dreiecks-* 6 der Aspekt, unter dem man etw. betrachtet ≈ Hinsicht: *In gewisser B. hast du recht* 7 *mit B. auf j-n/ etw.* indem man sich auf j-n/ etw. bezieht: *Mit B. auf die Situation der Firma sagte der Leiter, dass er niemanden zusätzlich einstellen könne* || ID *seine Beziehungen spielen lassen iron;* sich durch seine Beziehungen (3) e-n Vorteil verschaffen

Ei-weiß *das; -es;- / -e;* 1 *(Pl Eiweiß)* das Weiße im (Hühner)Ei: *Man nehme drei Eiweiß* 2 *(Pl Eiweiße)* e-e chemische Verbindung, deren relativ große Moleküle aus Kohlenstoff, Wasserstoff, Stickstoff u. Sauerstoff bestehen ≈ Protein || *zu* 2 **ei-weiß** | **haltig** *Adj; nicht adv;* **ei-weiß** |**reich** *Adj; nicht adv*
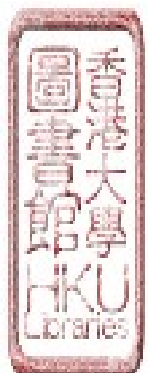
ernähren; *ernährte, hat ernährt* Vt **j-n/ ein Tier (mit etw.)** e. j-n/ ein Tier mit Nahrung versorgen: *ein Baby mit Muttermilch e.; ein junges Tier mit der Flasche e.; er sieht schlecht ernährt aus* 2 **j-n / sich (mit/ von etw.)** e. (mit etw.) für j-s/ den eigenen Lebensunterhalt sorgen: *Du bist alt genug, e-e Familie / dich selbst zu e.; Von / Mit seiner Arbeit kann er keine Familie e.* 3 **etw. ernährt j-n** etw. bringt so viel Geld ein, dass j-d davon leben kann: *Dieser Bauernhof / Betrieb ernährt e-e zehnköpfige Familie* 4 **j-n künstlich e.** e-m Kranken, der nichts essen kann, flüssige Nahrung durch Infusionen, e-n Schlauch in der Nase o. ä. geben Vr 5 **sich (von etw.)e.** von e-r bestimmten Nahrung leben: *Füchse ernähren sich hauptsächlich von Mäusen; sich vegetarisch e.* || hierzu: **Ernährung** *die*

feststellen *(hat)* Vt 1 **etw. f.** (*bes* durch Nachforschen, Untersuchen, Prüfen) Informationen über etw. bekommen ≈ ermitteln < j-s Personalien f.; die Windrichtung, die Todesursache f.>: *Man hat festgestellt, dass das Waldsterben hauptsächlich durch sauren Regen verursacht wird* 2 **etw. (an j-m/etw.)f.** ≈ etw. bemerken1, erkennen <e-e Veränderung (an j-m/ etw.) f.> 3 **etw. f.** (entschieden) auf e-e Tatsache hinweisen: *Ich möchte einmal deutlich f., dass wir unsere Planung ändern müssen* || zu 1 u. 2 **feststellbar** *Adj; ohne Steigerung, nicht adv*

fluchtartig *Adj; ohne Steigerung;* sehr schnell, *bes* um aus e-r unangenehmen Situation zu kommen <f. den Raum, das Land verlassen>

freilich *Adv;* 1 verwendet, um etw. einzuräumen od. als selbstverständlich zu charakterisieren ≈ allerdings, natürlich: *Dass ich krank werden könnte, damit hatte ich f. nicht gerechnet, als ich die Urlaubsreise buchte* 2 *gespr;* verwendet, um e-e Frage nachdrücklich zu bejahen ≈ natürlich, selbstverständlich: *"Musst du morgen in die Arbeit?" – "(Ja), freilich."*

futtern; *futterte; hat gefuttert;*Vt/l **(etw.) f.** *gespr; mst* viel u. mit gutem Appetit essen

geschehen *geschieht, geschah, ist geschehen;* Vi 1 **etw. geschieht** etw. ist in e-r bestimmten Situation da (u. führt somit *bes* e-e Veränderung herbei) ≈ etw. ereignet sich, passiert <ein Unfall, ein Unglück, ein Unrecht, ein Wunder *usw*>: *Der Unfall geschah, kurz nachdem wir in die Hauptstraße eingebogen waren; Es geschieht immer wieder, dass...*2 **etw. geschieht j-m** etw. Unangenehmes tritt ein u. betrifft j-n = etw. widerfährt, passiert j-m: *Wenn er weiter so unvorsichtig ist, wird ihm noch ein Unglück g.; Keine Angst, hier kann dir nichts g.!* 3 **etw. geschieht (mit j-m / etw.)**etw. wird (mit j-m/ etw.) getan, etw. wird (mit j-m) unternommen: *In dieser Angelegenheit muss endlich etwas g.!; "Was geschieht mit den Kindern, wenn ihr in Urlaub seid?" – Sie bleiben bei der Oma"* 4 **etw. g. lassen** etw. dulden, ohne etw. dagegen zu unternehmen: *Wie konntest du nur g. lassen, dass er zu Unrecht beschuldigt wurde?; Er war so müde, dass er alles ohne Protest mit sich g. ließ* || ID **Gern (e) geschehen!** verwendet, um höflich zu antworten, wenn einem j-d dankt: *"Vielen Dank für deine Hilfe" – "(Bitte), gern g.!";* mst **Das geschieht ihm / ihr recht!** *gespr;* das hat er/ sie verdient: *"Er ist in der Prüfung durchgefallen." –"Das geschieht ihm recht – er hätte sich ein bisschen besser vorbereiten müssen";* **um j-n / etw. ist es geschehen** j-d / etw. kann nicht mehr gerettet werden = j-d / etw. ist verloren; **geschehe, was da wolle** ohne Rücksicht darauf, was in der Zukunft passieren mag

Getreide *das; -s; nur Sg, Kollekt;* alle Pflanzen (wie Weizen, Roggen, Gerste, Hafer o. ä.), aus deren Körnern *bes* Mehl gewonnen wird <G. anbauen, mähen, ernten, dreschen; das G. steht gut> || K-: **Getreide-, -anbau, -art, -ernte, -export, -feld, -handel, -import, -lieferung, -mühle, -silo, -sorte** || -K: **Futter-; Sommer-, Winter-**
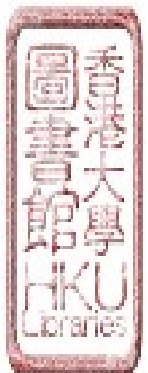
Gewerkschaft *die; -, -en;* e-e Organisation, die die Interessen der Arbeitnehmer (*mst* e-r bestimmten Berufsgruppe) gegenüber den Arbeitgebern bzw. dem Staat vertritt: *die G. der Angestellten* || K-: *Gewerkschafts-, -beitrag, -bewegung, -führer, -funktionär, -mitglied, -sekretär, -sitzung,-vorsitzende(r)* || -K: *Drucker-, Eisenbahner-, Polizei-* usw || *hierzu* **gewerkschaftlich** *Adj*

Ge-wohn-heit *die; -; -en;* 1 *die G.* (+ *zu* + *Infinitiv*) e-e Handlung, e-e Verhaltensweise *o.ä.,* die durch häufige Wiederholung *mst* automatisch u. unbewusst geworden ist <e-e alte, feste, liebe, schlechte G.; etw. aus reiner G. tun; seine Gewohnheiten ändern>: *Unsere Sitzungen sind zur G. geworden* (= haben keine besondere Bedeutung mehr); *Sie hat die G., nach dem Essen e-e Zigarette zu rauchen* || K-: *Gewohnheits-, -trinker, -verbrecher* || -K: *Denk-, Lebens-, Trink-* 2 *die Macht der G.* das, was uns etw. machen lässt, weil wir es sonst auch immer so machen (auch wenn wir es in diesem konkreten Fall nicht machen wollen) || *zu* 1 **ge-wohn-heits-ge-mäß** *Adj; nur attr od adv;* **ge-wohn-heits-mä-ßig** *Adj; nur attr od adv*

Hinterhof *der;* ein *mst* dunkler Hof zwischen mehreren Häusern

Indiz *das; -es, Indizien;* 1 *mst Pl, Jur;* etw., das darauf hindeutet, dass j-d ein Verbrechen begangen hat <die Indizien sprechen gegen j-n; j-n aufgrund von Indizien verhaften, verurteilen || -K: *Indizien-, -prozess* 2 *geschr* = Anzeichen <ein sicheres I. für etw.>

insgesamt *Adv;* so, dass alles mitgezählt ist ≈ zusammen: *Sie spielte in der Woche i. zwanzig Stunden Tennis; "Ich hatte drei Bier, was macht das i.?"*

irritieren; *irritierte, hat irritiert;* *Vt* 1 *j-d/etw. irritiert j-n* j-d / etw. macht j-n unsicher od. nervös, j-d / etw. verwirrt j-n: *Ihr Lächeln irritierte ihn* 2 *j-d / etw. irritiert j-n* j-d / etw. stört j-n bei e-r Tätigkeit: *Er machte Fehler, weil ihn der Lärm irritierte*

Kampagne [-'panjə] *die; -, -n; e-e K. (für, gegen j-n / etw)* e-e Aktion mit dem Zweck, in der Öffentlichkeit für j-n / etw. zu werben od. (*mst* aus politischen Gründen) gegen j-n / etw. kämpfen <e-e K. starten, führen>: *Die K. gegen das Rauchen hat Erfolg* || -K: *Presse-, Werbe-* || NB: ↑ Feldzug

knabbern; *knabberte; hat geknabbert;* *Vt/i* 1 (*etw.*) *k.* kleine Stücke von etw. (*z.B.* Schokolade, Nüssen) essen: *Vor dem Fernseher knabbert er gern (Salzstangen); Vi an etw.* (*Dat*) *k.* kleine Stücke von etw. Hartem (ab)beißen: *am e-m Keks k.; Der Hase knabbert an der Mohrrübe* || ID *an etw.* (*Dat*) *zu k. haben gepsr;* a) lange brauchen, bis man mit etw. (*mst* e-m Problem) seelisch fertig wird; b) sich mit etw. (lange) abmühen müssen

Kohlenhydrat *das; -(e)s, -e; Chem;* e-e Substanz, die aus Kohlenstoff, Sauerstoff u.Wasserstoff besteht, wie *z.B.* Zucker, u. den Körper mit Wärme u. Energie versorgt: *Kartoffeln sind reich an Kohlenhydraten*
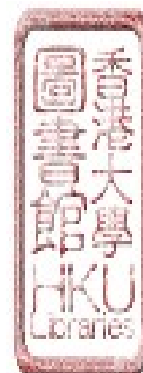
Kur *die; -; -en;* **1** e-e (Heil)Behandlung über e-e Zeit von einigen Wochen, die der Regenerierung der Gesundheit allgemein dient (u. bei der man sich von Ärzten behandeln lässt, Diät hält, Sport treibt *usw*) <e-e Kur machen> || K-: *Kur-, -mittel* || -K: *Bäder-, Entschlackungs-, Entziehungs-, Fasten-, Obst-, Saft-, Trink-* **2** ein Aufenthalt an e-m Ort mit besonderem Klima, Heilquellen *o.ä.* od. in e-m Sanatorium, bei dem man e-e Kur (1) macht < (irgendwo) zur/auf Kur sein; zur / auf Kur gehen, fahren> || K-: *Kur-, -arzt, - aufenthalt, -gast, -klinik, -ort, -park*

laufen; *läuft; lief; ist / hat gelaufen; Vi (ist)* **1** sich auf den Füßen schnell fortbewegen (so daß beide Füße kurze Zeit in der Luft sind) ≈ rennen <schnell, langsam laufen; um die Wette laufen>: *Er lief so schnell er konnte; Wenn du den Zug noch erreichen willst, musst du laufen!; Mit erhobenen Armen lief sie durchs Ziel* **2** *bes gespr;* sich auf den Füßen von e-m Ort zum anderen bewegen ≈ gehen <auf u. ab, hin u. her, an Krücken, am Stock laufen>: *Unser Kind hat schon sehr früh laufen gelernt; In Schuhen mit hohen Absätzen kann ich nicht gut laufen; Fahren wir mit dem Bus oder wollen wir laufen? "Wie weit ist es denn zum Schwimmbad?" – "Etwa zehn Minuten zu laufen."* **3** *gegen/ in etw. (Akk) l.* beim Gehen od. Laufen mit j-m / etw. zusammenstoßen <jem. ins Auto laufen>: *Er war so betrunken, dass er voll gegen / in den Zaun gelaufen ist* **4** *etw. läuft (irgendwie)* etw. ist in Betrieb (u. funktioniert auf e-e bestimmte Weise) <Maschinen, Geräte, Motoren>: *Seit der Reparatur läuft der Plattenspieler wieder einwandfrei; Bei laufendem Motor darf man nicht tanken* || K-: *Lauf-, -geräusch* **5** *etw. läuft irgendwo(hin)* etw. bewegt sich irgendwo(hin): *Das Seil läuft über Rollen; Der Wagen läuft auf Schienen; Ein Zittern lief durch ihren Körper* **6** *etw. läuft irgendwohin* e-e Flüssigkeit bewegt sich irgendwohin ≈ etw. fließt, rinnt irgendwohin: *Tränen liefen ihr über die Wangen; Er ließ Wasser in den Eimer laufen* **7** *etw. läuft auf Grund* ein Schiff *o.ä.* bleibt an einer flachen Stelle des Wassers liegen **8** *der Käse läuft* der Käse wird weich und fängt an zu fließen **9** *etw. läuft irgendwann / irgendwo* etw. steht auf dem Programm und wird gezeigt: *Was läuft gerade im Kino?; Der Film lief letzte Woche schon im Fernsehen* **10** *etw. läuft irgendwie* etw. entwickelt sich od. geschieht auf e-e bestimmte Weise ≈ etw. verläuft irgendwie, läuft irgendwie ab: *Die Verhandlungen sind sehr günstig für uns gelaufen; Wie läuft es denn so mit Gerhard und dir? Du weißt ja, wie es oft läuft – erst freut man sich lange auf etw., und dann wird doch nichts draus* **11** *etw. läuft + Zeitangabe* etw. ist für den genannten Zeitraum gültig ↔ auslaufen <ein Abkommen, e-e Abmachung, e-e Vereinbarung, ein Vertrag>: *Mein Arbeitsvertrag läuft noch bis Ende des Jahres* **12** *etw. läuft* etw. Wird gerade entschieden, ist noch nicht abgeschlossen <ein Antrag, e-e Bewerbung , die Verhandlungen>: *Gegen ihn läuft e-e Anzeige wegen Trunkenheit am Steuer* **13** *etw. läuft irgendwie gespr;* der Verkauf von etw. entwickelt sich auf die genannte Weise: *Das neue Modell läuft sehr gut; Die Zeitschrift läuft nicht so wie erwartet* **14** < ein Auto, ein Konto> *läuft auf j-s Namen/ auf j-n* j-d wird in e-r Liste, Kartei *o.ä.* als Besitzer e-s Autos od. Kontos geführt **15** *j-m läuft die Nase* j-s Nase tropft *Vt/l* **16** *(etw.) l. (ist / hat)* in e-m sportlichen Wettkampf l. (1): *Sie läuft die hundert Meter in zwölf Sekunden; Er hat / ist heute e-n Rekord gelaufen* || K-: *Lauf-, -schuh, -training; Vt (ist)* **17** *Rollschuh, Schlittschuh, Ski l.* sich auf Rollschuhen, Schlittschuhen, Skiern bewegen ≈ Rollschuh *usw* fahren: *Wir sind früher oft auf dem Teich Schlittschuh gelaufen; kannst du Ski l.?* **18** *sich (Dat) etw. (irgendwie) l. (hat)* so lange l. (1,2), bis die Füße od. Schuhe in e-m bestimmten Zustand sind <sich die Füße wund l.; sich Blasen, Löcher in die Schuhe l.> || NB: *zu* 16 – 18: kein Passiv!; *Vr (hat)* **19** *sich irgendwie l.* so lange l.(1,2), bis man in e-m bestimmten Zusstand ist <sich müde, warm, wund l.>; *Vimp (hat)* **20** *es läuft sich irgendwie* man kann so l. (1,2): *In den neuen Schuhen läuft es sich gut; Auf Gras läuft es sich weicher als auf der Straße* || ID *mst* **Na, wie läuft's?** *gespr;* wie geht es dir?; *etw. läuft wie geschmiert gespr;* ein Plan, ein Geschäft *o.ä.* entwickelt sich sehr gut; *mst* **Da läuft bei mir nichts!** *gespr;* dazu bin ich nicht bereit; *etw. ist gelaufen gespr;* etw. ist nicht mehr zu ändern || ID ↑*Rücken* || *zu Lauferei* ↑ *-ei*
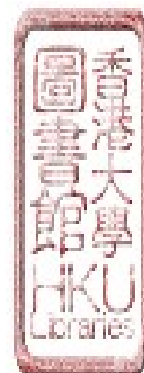
**liefern**; *lieferte, hat geliefert* vt/1 (*(j-m) etw.*) *l.* j-m e-e bestellte od. gekaufte Ware bringen ↔ erhalten <etw. sofort, pünktlich, termingemäß, per Post, frei Haus l.>: *Wir können (Ihnen die Möbel) erst in sechs Wochen l.* || K-: *Liefer-, -bedingungen, -frist, -termin, -zeit;* vt 2 *ein Tier/ etw liefert etw.* ein Tier/ etw. bringt etw. Essbares bzw. Rohstoffe o.ä. hervor: *Bienen liefern Honig* 3 *j-d/ etw. liefert (j-m) etw.* l-d/ etw. stellt j-m etw. zur Verfügung = j-d/ etw. bietet (j-m) etw., gibt etw. her: *Der Skandal lieferte der Presse viel Gesprächsstoff* 4 zusammen mit einem Substantiv verwendet, um ein Verb zu umschreiben: *e-n Beweis (für etw.)l.* ≈ etw. beweisen; *e-n Nachweis (für etw.)l.* = etw. nachweisen; *sich (Pl) e-n Kampf l.* ≈ miteinander kämpfen; *ein gutes/ schlechtes Spiel l.* ≈ gut/ schlecht spielen || zu 1 **lieferbar** *Adj.; nicht adv.* **Lieferant** *der; -en, -en*

lostreten (*hat*) *Vt etw. l.* etw. durch Treten von etw. lösen od. in Bewegung setzen <e-e Lawine l.>

Luft *die; -, Lüf-te;* 1 *nur Sg;* das Gemisch aus Gasen, das die Erde umgibt u. das der Mensch u. die Tiere brauchen, um atmen zu können <dünne, feuchte, milde, klare, warme, kalte, frische L.; die L. einatmen, ausatmen; keine L. (mehr) bekommen; nach L. ringen, schnappen>: *Die L. besteht aus e-m Gemisch aus Stickstoff, Sauerstoff u. Edelgasen; Nach dem Regen ist die L. wieder frisch u. gut; Wenn man auf e-n Berg steigt, wird die L. immer dünner* || K-: *Luft-, -blase, -feuchtigkeit, -filter, -mangel, -reinheit, -strömung, -temperatur, -verschmutzung, -verunreinigung* || -K: *Frisch-, Kalt-, Warm-, Heiß-, Meeres-* 2 *nur Sg;* der Raum direkt über der Oberfläche der Erde, in dem wir leben: *e-n Ball in die L. werfen; e-e Brücke in die L. sprengen; Ein Pfeil fliegt durch die L.; Der Vogel fing e-e Fliege in der L.* || K-: *Luft-, -angriff, -kampf, -schlacht* 3 *nur Sg;* ein leichter Wind ≈ Lüftchen, Brise <es geht, weht e-e frische, kalte L.> 4 *L. holen* ≈ einatmen <tief L. holen> 5 *die L. anhalten* die L. (1) nicht aus dem Mund u. der Nase strömen lassen 6 *an die frische L. gehen; frische L. schnappen* nach draußen gehen, um frische L. (1) atmen zu können || ID *mst Die L. ist rein!* es ist niemand da, der einen beobachten könnte; *Es herrscht dicke L.* gespr; es herrscht e-e gespannte Atmosphäre, Streit bahnt sich an; *j-n wie Luft behandeln* gespr; j-n ignorieren; *Luft für j-n sein* gespr; von j-m ignoriert, nicht beachtet werden; *etw. liegt in der L.* etw. steht (als Gefahr, Drohung) direkt bevor: *Da lag ein Streit in der L.; j-d / etw. löst sich in L. auf* j-d / etw. verschwindet plötzlich; *j-m bleibt die L. weg* a) j-d kann nicht mehr atmen; b) j-d ist sehr erschrocken od. erstaunt; *etw. fliegt in die L.* etw. explodiert: *die Brücke flog in die L.; etw. in die L. jagen* gespr; etw. sprengen: *e-e Brücke in die L. jagen; etw. ist aus der L. gegriffen* etw. ist erfunden u. existiert in Wirklichkeit nicht <e-e Behauptung>; *aus etw. ist die L. raus* gespr. etw. hat nicht mehr dieselbe Wirkung od. den Schwung wie am Anfang; *j-d geht in die L.* gespr; j-d wird sehr schnell wütend = j-d geht hoch; *j-n an die frische L. setzen* gespr; j-n hinauswerfen; *j-n in der L. zerreißen* gespr; j-n sehr hart kritisieren; *sich / etw. (Dat) L. machen* laut sagen, was einem Probleme u. Ärger macht <seinem Ärger, Verdruß L. machen>; *mst von L. u. Liebe kann man nicht leben* man braucht auch Essen usw (u. deswegen auch Geld) zum Leben; *sich in die Lüfte schwingen; sich in die Lüfte erheben* geschr; den Boden verlassen und fliegen <Vögel>; *j-m die L. zum Atmen nehmen* j-n in seiner Freiheit sehr einschränken; *Halt die Luft an!* gespr; a) sei still, rede nicht so viel; b) übertreib nicht so; *etw. hängt (noch) in der L.* etw. ist noch nicht entschieden; *j-n in der L. hängen lassen* j-n auf e-e Entscheidung od. Hilfe warten lassen

Mahl-zeit *die;* 1 die Nahrung, die man (regelmäßig) zu e-r bestimmten Tageszeit isst (u. die oft aus mehreren Gängen besteht) <e-e warme M. zubereiten, essen, verzehren, einnehmen, zu sich nehmen> || -K: *Abend-, Haupt-, Mittags-, Zwischen-* 2 (Gesegnete) *M.! gespr;* verwendet, um j-n vor dem Essen e-n guten Appetit zu wünschen ≈ guten Appetit! 3 *M.!*
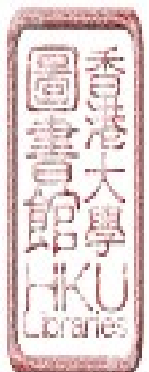
gespr; in der Mittagszeit verwendet, um j-n (*bes* Arbeitskollegen) zu grüßen **4** *Na M.! gespr;* verwendet, um negative Überraschung auszudrücken

Näherin *die; -, -nen;* e-e Frau, deren Beruf es ist, Kleider *usw* zu nähen ≈ Schneiderin

Nahrungsmittel *das;* etw., was man als Mensch isst od. trinkt, um zu leben ≈ Lebensmittel || K-: *Nahrungsmittel-, -industrie, -vergiftung*

nüchtern *Adj;* **1** so, dass die betroffene Person kein Frühstück gegessen hat u. der Magen leer ist < mit nüchternem Magen, n. zum Arzt gehen>: *Ich kann auf nüchternen Magen keinen Alkohol trinken* **2** nicht betrunken, nicht von den Wirkungen des Alkohols beeinflußt ↔ betrunken, beschwipst <nicht mehr ganz n., völlig, vollkommen n. sein>: *Nach zwei Gläsern Wein war er nicht mehr ganz n.* || NB: um *n.* zu verstärken, verwendet man (in der gesprochenen Sprache) *stocknüchtern* **3** von sachlichen Überlegungen u. nicht vom Gefühl geleitet ≈ sachlich ↔ unsachlich, emotional <e-e Überlegung, Feststellungen; die Sache n. betrachten, beurteilen; ein nüchterner, n. denkender Mensch> **4** nur an Zweck u. Funktion orientiert ≈ zweckmäßig, funktional <ein Raum, ein Betonbau, ein Stil; e-e n. eingerichtete Wohnung>: *Ohne Pflanzen u. Bilder wirkt das Büro schrecklich n.* || *hierzu:* **Nüchternheit** *die; nur Sg*

Rätsel *das; -s, -;* **1** e-e Art komplizierte Frage, bei der man raten od. lange nachdenken muß, um die Antwort zu finden <ein leichtes, einfaches, schweres, schwieriges R.; ein R. lösen, raten; j-m ein R. aufgeben; die Lösung des Rätsels wissen> || K-: *Rätsel-, -frage* **2** ein Spiel mit solchen Fragen, das man in verschiedenen Formen *bes* in Zeitschriften findet || K-: *Rätsel-, -ecke, heft, -zeitschrift* ||-K: *Bilder-, Kreuzwort-, Silben-, Zahlen-; Preis-* **3** etw., das man nicht erklären kann = Geheimnis (2) <j-m ein R. sein, bleiben>: *Es ist mir ein R., wo sie so lange bleibt* **4** *vor e-m R. stehen* sich etw. nicht erklären können **5** *etw. gibt j-m Rätsel/ ein R. auf* etw. ist für j-n ein Problem, ein R. (3) || ID *in Rätseln sprechen/ reden* sich so unklar ausdrücken, daß niemand weiß, wovon man spricht; *mst Das ist des Rätsels Lösung!* verwendet, um sein Staunen auszudrücken, wenn man plötzlich die Lösung od. Erklärung für etw. findet

Riegel *der; -s,-;* **1** ein Stab aus Metall od. Holz, den man vor etw. schiebt, um es so zu sichern <ein hölzerner, eiserner R.; e-n R. vorschieben; etw. mit e-m R. verschließen>: *Wir konnten nicht in den Garten, weil das Tor mit e-m R. verschlossen war* ||-K: *Eisen-, Fenster-, Tür-* **2** ein schmales, langes Stück Schokolade *o.ä.* <ein R. Schokolade> ||-K: *Schokoladen-* || ID: *etw. (Dat) e-n R. vorschieben* etw. verhindern

Ritual *das; -s, -e;* **1** e-e (*bes* religiöse) Handlung, die nach festen Regeln in e-r bestimmten Reihenfolge abläuft = Ritus, Zeremonie <ein christliches, heidnisches R.> ||-K: *Begräbnis-* **2** die Regeln, nach denen Rituale (1) ablaufen <etw. geschieht nach e-m festen, strengen R.> **3** *hum;* ein Vorgang, der immer wieder auf die gleiche Weise ausgeführt wird (u. der so ein Gefühl des Wohlseins od. der Ordnung erzeugt): *Zu unserem abendlichen R. gehört, dass die Kinder e-e Gute-Nacht-Geschichte bekommen* || *zu* **1** u. **3 ritualisieren** *(hat) Vt;* **rituell** *Adj*
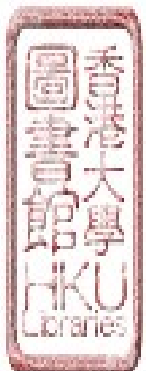
schmierig *Adj;* 1 schmutzig u. feucht od. klebrig <e-e Schmutzschicht>: *Von dem verspritzten Fett ist der Herd ganz s.* || K-: *Schmier-, -film* 2 *pej;* auf unehrliche u. unangenehme Art freundlich <ein Kerl, ein Typ, s. grinsen> 3 *pej;* ≈ unanständig <ein Witz> || *hierzu* **Schmierigkeit** *die; nur Sg*

schuften; *schuftete, hat geschuftet; Vi gespr;* schwer arbeiten ≈ ackern (2) || *zu* **Schufterei** ↑ei

Schulden *die; Pl;* das Geld, das man j-m noch zahlen muss <Schulden (bei j-m, der Bank, auf der Bank) haben, machen; sich (*Akk*) in Schulden stürzen; j-s Schulden stunden, erlassen; Schulden einklagen, eintreiben; seine Schulden abzahlen, zurückzahlen, begleichen, tilgen>: *Um das Haus kaufen zu können, stürzten sie sich in Schulden; Ich glaube, ich habe noch Schulden bei dir* || K-: *Schulden-, -berg, -erlaß, -last; Schuld-, -recht, zins* ||-K: *Bank-, Kredit-, Spiel-, Steuer-* || ID *tief in Schulden/ bis über beide Ohren in Schulden stecken gespr;* viele Schulden haben || *hierzu* **schuldenfrei** *Adj*

steuern; *steuerte, hat/ ist gesteuert; Vt/i (hat)* 1 *(etw.) s.* bewirken, dass ein Fahrzeug sich in e-e bestimmte Richtung bewegt ≈ lenken <ein Auto, ein Flugzeug, ein Schiff s.; nach links, nach rechts s.> *Vt (hat)* 2 *etw. s.* bestimmen, wie sich etw. entwickelt od. wie es verläuft <e-e Entwicklung, ein Gespräch, e-e Unterhaltung, e-n Prozess s.> 3 *etw. steuert etw.* etw. bewirkt, dass in e-m System od. in e-r Maschine bestimmte Prozesse regelmäßig ablaufen: *e-e elektronisch gesteuerte Rechenanlage; Die Tätigkeit des Sprechens wird vom Gehirn gesteuert* || K-: *Steuer-, -befehl, gerät, -programm, -system; Vi (ist)* 4 *irgendwohin s.* e-e bestimmte Richtung wählen, in die man sich bewegen will: *Das Flugzeug steuerte nach Süden* || *zu* 1, 2 u.3 **steuerbar** *Adj;* **Steuerung** *die; mst Sg* || ▸ *ansteuern*

Sub- *im Substantiv, begrenzt produktiv;* 1 verwendet, um auszudrücken, dass etw. ein Teil von etw. ist, der deutlich abgegrenzt ist u. eigene Eigenschaften hat; die *Subkategorie*, der <indische, nordamerikanische, südamerikanische> *Subkontinent*, die *Subkultur*, die *Subspezies*, das *Subsystem* 2 verwendet, um auszudrücken, dass j-d e-e untergeordnete od. abhängige Position hat; der *Subdirigent*, der *Subunternehmer*

Textilien *die; Pl;* alle Dinge, die (maschinell) gewebt od. gestrickt werden, also Kleidungsstücke, Wäsche, Stoffe, *usw*

übersehen; *übersieht, übersah, hat übersehen; Vt* 1 *j-n / etw. ü.* j-n / etw. ohne Absicht nicht sehen: *beim Korrigieren e-s Diktats Fehler ü.; j-n in e-r Menschenmenge ü.* 2 *j-n/ etw. ü.* j-n/ etw. ignorieren, nicht beachten < j-n geflissentlich ü.> 3 *etw. ü.* gut über ein *mst* großes Gebiet sehen können ≈ überblicken (1): *Von dem Leuchtturm aus konnten wir die ganze Küste ü.* 4 *etw. ü.* die Konsequenzen e-s Ereignisses abschätzen: *Die Folgen der Unwetterkatastrophe lassen sich noch nicht ü.*

Umsatz *der,* der Gesamtwert der Waren, die in e-m bestimmten Zeitraum verkauft werden <der U. steigt, sinkt, stagniert>: *Das Lokal , macht e-n U. von durchschnittlich tausend Mark pro Abend; Der U. an/ von Computerspielen ist in den letzten Jahren stark zurückgegangen* || K:- *Umsatz-, -anstieg, -beteiligung, -rekord, -rückgang, - steigerung, -steuer* || -K: *Jahres-, Tages-* || NB: ↑ **Absatz**
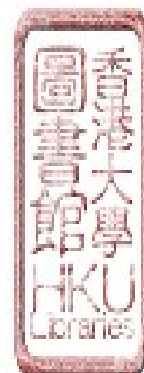
umstellen 1; *stellte um, hat umgestellt;Vt/*1 (*etw.*) *u.* etw. von einem Platz an e-n anderen stellen ≈ verrücken: *Möbel u.; die Wörter in e-m Satz u.* 2 (*etw.*) *u.* e-n Hebel *o.ä.* anders stellen <die Weichen u.> 3 (*j-n/ etw.*) ((*von etw.*) *auf etw.(Akk) u.* etw. (für j-n) (in bestimmter Hinsicht) ändern: *ein Baby von Muttermilch auf feste Nahrung u.; seine Ernährung völlig u.; (den Betrieb) auf Computer u.; Vr* 4 *sich* ((*von etw.*) *auf etw. (Akk)) u.* sich veränderten Umständen u. Situationen anpassen <sich u. müssen>: *sich rasch auf das tropische Klima u.* || *hierzu* **Umstellung** *die; zu* 1-3 **umstellbar** *Adj*

Unbekannte *der/die;* j-d, den man nicht kennt || NB: *ein Unbekannter; der Unbekannte; den, dem, des Unbekannten*

unbeliebt *Adj; (bei j-m)u.* (bei j-m) nicht beliebt (2) ↔ gern gesehen || ID *sich (bei j-m)u. machen* durch sein Verhalten bewirken, dass j-d einen nicht mag: *Wenn du ständig Fragen an den Chef richtest, machst du dich bei ihm u.* || *hierzu:* **Unbeliebtheit** *die; nur Sg*

unterversorgt *Adj; (mit etw.) u.* mit etw. Wichtigem in nicht ausreichendem Maße versorgt: *Das Herz des Kranken ist mit Sauerstoff u.* || *hierzu:* **Unterversorgung** *die*

verlegen; *verlegte, hat verlegt; Vt* 1 *etw. (irgendwohin) v.* den Standort von etw. wechseln: *seinen Wohnsitz in e-e andere Stadt v.; Die Haltestelle wurde verlegt* 2 *j-n (irgendwohin) v.* j-n (*bes* e-n Kranken) an e-n anderen Ort bringen: *e-n Kranken in / auf die Intensivstation v.;* 3 *etw. (auf etw. (Akk)) v.* den vorgesehenen Zeitpunkt od. Termin für etw. ändern: *Das Rennen wurde wegen des schlechten Wetters auf übermorgen verlegt* || NB: Wenn etw. *verlegt* wird, kann es früher od. später stattfinden. Wenn etw. früher stattfindet, sagt man auch *vorverlegen*; wenn etw. später stattfindet, sagt man auch *verschieben* 4 *etw. v.* etw. an e-r bestimmten Stelle befestigen <Fliesen, Gleise, Kabel, Leitungen, ein Parkett, Rohre, e-n Teppichboden v.> 5 *etw. v.* etw. an e-n bestimmten Ort legen u. es nicht mehr finden: *Oma hat ihre Brille verlegt. Hilf ihr bitte suchen!* 6 *j-d / ein Verlag verlegt etw.* der Besitzer e-s Verlags / ein Verlag lässt etw. gedruckt erscheinen ≈ herausbringen <Bücher, Zeitschriften v.>; 7 *Vr sich auf etw. (Akk) v.* mit e-r neuen Taktik versuchen, sein Ziel zu erreichen: *Als seine Überredungskünste nicht wirkten, verlegte er sich aufs Bitten* || *zu* 1 – 4 **Verlegung** *die*

Versand *der; -(e)s; nur Sg.* 1 das Schicken von Waren an die Leute, die die Waren bestellt haben: *Waren zum V. verpacken* || K-: *Versand-, -abteilung, -handel, -kosten* || -K: *Bahn-, Post-; Waren-* 2 e-e Abteilung in e-m Betrieb, die die Waren versendet < im V. arbeiten, tätig sein> || *zu* 1 **versandbereit** *Adj;* **versandfertig** *Adj; nicht adv* || **versenden**

Versandhaus *das;* ein Betrieb, der Waren in e-m Katalog anbietet u. diese mit der Post *o.ä.* an die Leute schickt, die diese Waren bestellen || K-: *Versandhaus-, -katalog*

versichern; *versicherte, hat versichert Vt* 1 *(j-m) etw. v.* j-m erklären, dass etw. ganz sicher so ist, wie man es gesagt hat ≈ beteuern <(j-m) hoch u. heilig v., dass...>: *Er versicherte mir, dass er ein Spezialist auf diesem Gebiet sei; Vr* 2 *sich etw. (Gen) v.* prüfen, ob es ganz sicher ist, dass man etw. bekommt <sich j-s Freundschaft, j-s Hilfe, j-s Schutzes v.> || *zu* 1 **Versicherung** *die*
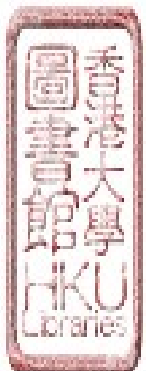
Verstoß *der; ein V. (gegen etw.)* e-e Handlung, mit der man ein Gesetz od. e-e Regel verletzt <ein (schwerer) V. gegen den Anstand, das Gesetz, den guten Geschmack, die Regeln> || -K: *Regel-*

Vertrag *der; -(e)s, Verträge;* 1 e-e Vereinbarung zwischen zwei od. mehreren Partnern, die für beide Partner gesetzlich gültig ist ≈ Kontrakt, Abkommen <ein fester, bindender, langfristiger V.: e-n V. mit j-m (ab)schließen; e-n V. machen, erfüllen, verletzen, brechen, lösen, kündigen; von e-m V. zurücktreten> || K-: *Vertrags-, abschluss, -partner, -recht, -schluss, text* || -K: *Arbeits-, Ausbildungs-, Ehe-, Friedens-, Handels-, Kauf-, Miet-, Versicherungs-* 2 ein Dokument, in dem steht, was durch e-n V. (1) festgelegt wurde <e-n V. unterschreiben, unterzeichnen> 3 *j-n unter V. nehmen mst* e-n Künstler engagieren 4 *unter V. sein/ stehen mst* als Künstler irgendwo (befristet) angestellt sein || *zu* 1 **vertragsgemäß** *Adj;* **vertragsgerecht** *Adj;* **vertragswidrig** *Adj*

verzichten; *verzichtete, hat verzichtet; Vi (auf j-n / etw.)v.* freiwillig ohne j-s Hilfe, Anwesenheit *o.ä.* bleiben bzw. etw. freiwillig nicht (mehr) benutzen, nehmen, tun *o.ä.:* zugunsten anderer auf e-n Anspruch v.; auf e-e Antwort v.; Weil das Wasser knapp wurde, musste sie auf ein Bad v.; Aus Geldmangel darauf v. müssen, in Urlaub zu fahren

Vollkorn- im Subst, betont, begrenzt Vollkorn- produktiv; *aus Vollkornmehl; das* Vollkornbrot, *das* Vollkorngebäck, *der* Vollkornkuchen, *die* Vollkornnudeln

Vollkornmehl *das;* dunkles Mehl, das aus grobgemahlenen ganzen (Getreide)Körnern besteht

Vorwurf *der; der V. (gegen j-n)* e-e Äußerung, mit der man j-m deutlich sagt, welche Fehler er gemacht hat ≈ Vorhaltung, Tadel <ein ernster, schwerwiegender, versteckter V.; der V. der Untreue; e-n V. entkräften, zurückweisen; Vorwürfe gegen j-n erheben; j-m/sich etw. zum V. amchen; j-m/sich bittere Vorwürfe machen>: Er mußte sich gegen den V. verteidigen, seine Firma betrogen zu haben || hierzu **vor-wurfs-voll** *Adj*

Witz *der; -es, -e* 1 e-e kurze Geschichte mit e-m Ende, das man nicht erwartet u. das einen zum Lachen bringt <e-n W. erzählen; ein geistreicher, politischer, unanständiger W.> 2 *nur Sg;* die Fähigkeit, etw. treffend u. geistreich erzählen zu können <W. u. Verstand haben, e-n scharfen W. haben; mit viel W. erzählen> 3 *nur Sg, veraltend* ≈ Verstand, Klugheit || ID **der W. e-r Sache** das Wesentliche e-r Sache; *mst* **Du machst wohl Witze!** *gespr. Das ist nicht dein Ernst;* **Das ist (ja wohl) ein W.!** das kann doch nicht möglich sein; **ohne W.** im Ernst

zunehmend 1 *Partizip Präsens;* ↑ **zunehmen** 2 *Adv* ≈ immer mehr: *Ihr gesundheitlicher Zustand besserte sich z.*

zwischendurch *Adv;* 1 zu einem od. mehreren Zeitpunkten während e-s Zeitraums od. e-s anderen Vorgangs ≈ zwischendrein, zwischendrin: *Sie arbeiteten von acht bis fünfzehn Uhr u. machten z. nur eine kurze Pause zum Essen; Während das G. kocht, muss man z. mehrmals umrühren* 2 ≈ hier u. da, stellenweise: *Auf dem Beet wachsen Rosen und Tulpen, z. auch ein paar Narzissen*

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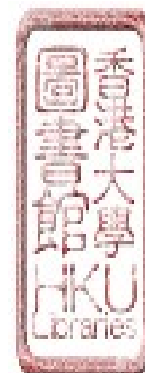
Appendix 5.2. NDefs

Worterklärungen: Neue Definitionen

abbrechen 1 Wenn man etwas, z.B. ein Stück Holz, **abbricht**, macht man es ab oder trennt ein Teil von einem anderen: *einen dürren Ast abbrechen* 2 Wenn man etwas, z.B. sein Studium, **abbricht**, beendet man es plötzlich oder hört damit auf, bevor es fertig ist: <eine Beziehung, eine Freundschaft, eine Verhandlung, eine Veranstaltung abbrechen> 3 Wenn etwas, z.B. ein Gebäude, **abgebrochen wird**, wird es kaputtgemacht, weil man es nicht mehr braucht oder weil man den Platz für etwas anderes braucht ≈ abreißen	1 – 3 *brach ab, hat abgebrochen; trans. Verb*
4 Wenn etwas, z.B. ein Ast von einem Baum, **abbricht**, löst es sich und fällt hinunter: *Der Ast ist bei starkem Wind abgebrochen* 5 Wenn etwas, z.B. ein Messer **abbricht**, geht es kaputt und man kann es nicht mehr gebrauchen <ein Bleistift> 6 Wenn etwas, z.B. Lärm, **abbricht**, hört es plötzlich auf: *Die Musik brach plötzlich ab*	4 – 6 *ist abgebrochen; intrans. Verb*
7 Wenn jemand mitten in einer Sache **abbricht**, hört er plötzlich damit auf: *Er brach mitten im Satz ab* 8 Man sagt: **Jemand bricht sich einen ab**, wenn er sich sehr bemüht und anstrengt, aber vielleicht nicht viel Erfolg hat	7 *hat abgebrochen;*

ankündigen 1 Wenn man etwas, z.B. eine Veranstaltung, **ankündigt**, informiert man andere Personen darüber, dass es bald kommen oder passieren wird <ein Konzert, einen Besuch>: *die Veröffentlichung eines Buches ankündigen* 2 Wenn man **sich bei jemandem ankündigt**, informiert man ihn, dass man bald zu Besuch kommen wird	1 *hat; trans. Verb*
3 Wenn etwas, z.B. ein Gewitter, **sich ankündigt**, gibt es deutliche Zeichen, dass es bald kommen oder passieren wird: *Durch die ersten schweren Stürme kündigt sich der Herbst an* || *zu* 1 *und* 2: **Ankündigung** *die*	3 *reflex. Verb; geschr;*

angeblich Wenn ich sage: Jemand tut oder ist **angeblich** etwas, dann behaupten andere Leute das, aber ich glaube es nicht oder bin nicht sicher ≈ vermeintlich: *ihr angeblicher Cousin; er ist angeblich sehr reich (aber ich glaube es nicht)*	*Adj; nur attr od adv;*

Aufklärung *die* 1 Die **Aufklärung** von etwas bedeutet, dass man die Wahrheit darüber gefunden hat. Z.B. bedeutet die **Aufklärung eines Verbrechens**, dass man den Verbrecher gefunden hat<die Aufklärung eines Missverständnisses> || K:- **Aufklärungs-, -quote** 2 **Aufklärung** sind Informationen über Probleme oder unklare Situationen: *von der Regierung Aufklärung über den Arbeitsmarkt verlangen* || K:- **Aufklärungskampagne**	*-, -en; mst Singular*

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3 Aufklärung bedeutet auch, dass meistens Kinder von Eltern oder Lehrern Informationen über Sex bekommen <Aufklärung betreiben>: *In der Schule gehört die Aufklärung zum Biologieunterricht* || K:- **Aufklärungs-, -buch, -film**

4 Die **Aufklärung** ist eine historische Epoche im 18. Jahrhundert: *das Zeitalter der Aufklärung*

5 Militärisch bedeutet **Aufklärung**, dass man beobachtet und herauszufindet, wo die Waffen und Soldaten des Feindes sind.

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auflösen 1 Wenn man z.B. ein Stück Zucker in Kaffee **auflöst**, verliert es seine feste Form und verteilt sich im Kaffee <Honig in Tee>: *eine Tablette in Wasser auflösen*

2 Wenn z.B. die Polizei eine Demonstration **auflöst**, beendet sie die Demonstration <eine Versammlung auflösen>

3 Wenn eine Organisation, z.B. eine Firma **aufgelöst wird**, hört sie auf zu existieren <eine Partei, das Parlament auflösen>

4 Wenn z.B. ein Vertrag **aufgelöst wird**, ist er nicht mehr gültig

5 Wenn man z.B. ein Rätsel oder Geheimnis **auflöst**, dann kann man etwas verstehen oder erklären, was vorher nicht klar war <einen Widerspruch aufklären>

6 In der Musik sagt man, eine Note **ist aufgelöst**, wenn das frühere Zeichen nicht mehr gilt: *Das b ist aufgelöst, du musst ein h spielen!*

7 Wenn **sich** etwas, z.B. Salz in Wasser, **auflöst**, verteilt es sich und man kann es nicht mehr sehen: *Der Nebel hat sich schnell aufgelöst*

8 Wenn **sich** etwas, z.B. eine Organisation, **auflöst**, hört es auf zu existieren <ein Verein>: *Der Stau hat sich inzwischen aufgelöst* || *zu* **2-6** und **8 Auflösung** *die*

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hat; trans. Verb

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7 reflex. Verb

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bereits 1 Man benutzt **bereits**, wenn etwas ziemlich früh oder früher passiert, als man erwartet: ≈ schon ↔ erst: *Letztes Jahr schneite es bereits im Oktober; Er kommt bereits morgen, nicht erst übermorgen; Wir waren gerade erst angekommen, da wollte er bereits wieder weg*

2 Man benutzt **bereits**, wenn es später ist, als man erwartet ≈ schon ↔ noch nicht: *Oh, es ist bereits sechs Uhr, eigentlich wollte ich noch einkaufen gehen; Es war bereits Mitternacht, als sie ins Bett gingen*

3 Man benutzt **bereits**, wenn man etwas noch nicht erwartet hat: ≈ schon ↔ erst: *Um acht Uhr hatte er bereits drei Gläser Bier getrunken; Sie ist erst vierzig Jahre alt und bereits Großmutter*

4 bereits sagt man auch, wenn etwas schon vorbei oder fertig oder entschieden ist ≈ schon ↔ noch nicht: *Als wir die Wohnung besichtigen wollten, war sie bereits vergeben*

5 Man benutzt **bereits**, wenn man von der Vergangenheit oder der Zeit vor einem Ereignis spricht: *Bist du bereits in Amerika gewesen?; Ich hatte bereits gehört, dass er die Firma verlässt, bevor man es mir offiziell mitteilte*

6 Man benutzt **bereits**, wenn etwas ausreichend ist oder genug Grund für etwas, z.B. ein Gefühl, ist: ≈ allein, schon: *Bereits der Gedanke daran ist mir zuwider; Bereits sehr geringe Mengen radioaktiver Strahlen können Krebs erzeugen*

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Partikel; – unbetont

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beschäftigen 1 Wenn eine Firma jemanden **beschäftigt**, gibt sie ihm Arbeit und bezahlt ihn dafür: *Der Betrieb beschäftigt 150 Personen* **2** Wenn man z.B. Kinder mit etwas **beschäftigt**, gibt man ihnen etwas zu tun, damit sie sich nicht langweilen **3** Wenn mich etwas, z.B. ein Problem, **beschäftigt**, muss ich immer darüber nachdenken: *Diese Frage beschäftigt mich schon seit längerer Zeit* **4** Wenn man **sich mit** einer Person **beschäftigt**, kümmert man sich um sie: *Unsere Oma beschäftigt sich viel mit ihren Enkeln* **5** Wenn man **sich mit** etwas, z.B. mit Literatur, **beschäftigt**, verbringt man seine Zeit damit: *Er beschäftigt sich gern mit seinen Blumen; sich mit Büchern beschäftigen* **6** Wenn man **sich mit** etwas, z.B. einem Problem, **beschäftigt**, denkt man intensiv und lange darüber nach = sich mit etw. befassen: *Er beschäftigt sich mit mathematischen Problemen* **7** Wenn z.B ein Buch ein spezielles Thema hat, kann man sagen, das Buch **beschäftigt sich mit** dem Thema: *Sein Aufsatz beschäftigt sich mit dem Verhältnis von Mensch u. Natur*	1 – 3 *trans. Verb; beschäftigte, hat beschäftigt;* Zu 3 kein Passiv 4 – 7 *reflex. Verb*

Beziehung *die* **1** Eine **Beziehung zwischen** zwei oder mehreren Dingen ist ein Zusammenhang zwischen ihnen oder die Art, wie sie miteinander verbunden sind <etwas steht in Beziehung zu etwas; etwas mit etwas in Beziehung bringen; etwas zu etwas in Beziehung setzen>: *die Beziehung zwischen Wohlstand und der Geburtenzahl untersuchen; die Wahlbeteiligung mit dem Wetter in Beziehung setzen; Sein Selbstmord steht sicher in Beziehung zu seiner langen Krankheit.* **2** Die **Beziehungen** zwischen Personen, Gruppen, Institutionen oder Staaten sind ihre Kontakte miteinander <verwandschaftliche, freundschaftliche, wirtschaftliche Beziehungen; **mit/ zu** jemandem Beziehungen aufnehmen, knüpfen, unterhalten; **mit/ zu** jemandem in Beziehung treten; die Beziehungen **zu** jemandem abbrechen>: *die diplomatischen Beziehungen zu einem Staat abbrechen; Die besseren internationalen Beziehungen ermöglichen Fortschritte bei der Abrüstung* ||-K: **Geschäfts-, Verwandschafts-, Wirtschafts-** **3** Wenn jemand **Beziehungen** hat, hat er nützliche Kontakte **zu** einer Person oder Organisation, die helfen können oder einen Vorteil bringen : *Er bekam einen Ferienjob, weil er gute Beziehungen zum Chef der Firma hat.* **4** Wenn man z.B. eine gute **Beziehung zu** jemandem oder etwas hat, hat man eine positive Meinung und positive Gefühle: *Zur abstrakten Kunst habe/ finde ich keine (rechte) Beziehung.* **5** Wenn eine Person eine **Beziehung mit** oder **zu** einer anderen Person hat, haben sie sexuelle Kontakte <eine intime, sexuelle Beziehung mit/ zu jemandem haben/ unterhalten> ||-K: **Zweier-, Dreiecks-** **6** Wenn man sagt **in dieser Beziehung**, meint man: in diesem Punkt, Kontext oder in dieser Situation: *In dieser Beziehung hast du recht.* **7** Man sagt **mit Beziehung auf** jemanden oder etwas, wenn man auf eine Person oder eine Tatsache aufmerksam machen möchte. *Mit Bezug auf die Situation der Firma sagte der Leiter, dass er niemanden zusätzlich einstellen könne*	-, -en 2 *meistens Plural* 3 *nur Plural* 4 *meistens Singular*

8 Wenn jemand **seine Beziehungen spielen lässt**, sucht oder bekommt er Vorteile durch seine Beziehungen	

Eiweiß *das* 1 Ein **Eiweiß** ist das Weiße in einem Ei: *Man nehme drei Eiweiß* 2 **Eiweiß** ist eine Substanz, die man besonders in Fleisch, Eiern und Milch findet. Man braucht **Eiweiß**, um zu wachsen und gesund zu bleiben = Protein || *zu* 2 **eiweiß** | **haltig** *Adj; nicht adv;* **eiweiß** | **reich** *Adj; nicht adv*	*-es; -e* 1 *Plural:* Ei- weiß

ernähren 1 Wenn man jemanden **ernährt**, gibt man ihm die Nahrung, die er braucht: *ein Baby mit Muttermilch ernähren; ein junges Tier mit der Flasche ernähren; er sieht schlecht ernährt aus* 2 Wenn man sich oder seine Familie **ernähren** kann, verdient man genug Geld, um die Kosten für sich oder die Familie zu bezahlen: *Du bist alt genug, eine Familie / dich selbst zu ernähren; Von / Mit seiner Arbeit kann er keine Familie ernähren* 3 Wenn man sagt: Etwas, z.B. eine Arbeit, **ernährt** eine Person oder Familie, meint man, dass die Person oder Familie von der Arbeit gut verdienen und gut leben kann: *Dieser Bauernhof / Betrieb ernährt eine zehnköpfige Familie* 4 Wenn ein Kranker **künstlich ernährt wird**, kann er selbst nichts essen und bekommt Nahrung durch Infusionen oder durch die Nase 5 Man sagt: Jemand **ernährt sich von etwas**, wenn er besonders oder ganz von dieser Nahrung lebt: *Füchse ernähren sich hauptsächlich von Mäusen; sich vegetarisch ernähren* || *hierzu:* **Ernährung** *die*	*trans.Verb;* *ernährte,* *hat ernährt* 5 *reflex. Verb*

feststellen 1 Wenn man etwas, z.B. einen Fehler, **feststellt**, hat man etwas geprüft oder untersucht und kommt dadurch zu einem Ergebnis oder neuen Informationen ≈ *ermitteln, entdecken<* jemandes Personalien feststellen; die Windrichtung, die Todesursache feststellen>: *Man hat festgestellt, dass das Waldsterben hauptsächlich durch sauren Regen verursacht wird* 2 Wenn man **an** einer Person oder Sache etwas **feststellt**, bemerkt man etwas ≈ erkennen <eine Veränderung an jemandem/ etwas feststellen> 3 Wenn man etwas **feststellt**, sagt man etwas klar und deutlich: *Ich möchte einmal deutlich feststellen, dass wir unsere Planung ändern müssen* || *zu* 1 u. 2 **feststellbar** *Adj; ohne Steigerung, nicht adv*	*trans. Verb;* *hat*

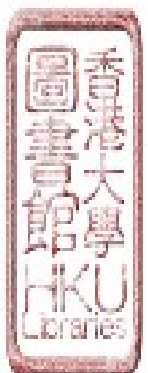|	
fluchtartig Wenn man **fluchtartig** z.B. das Zimmer verlässt, geht man wegen einer unangenehmen Situation sehr schnell weg <fluchtartig den Raum, das Land verlassen>	*Adj; ohne Steigerung;*

freilich 1 Man benutzt **freilich**, wenn man etwas selbstverständlich findet ≈ allerdings, natürlich: *Dass ich krank werden könnte, damit hatte ich freilich nicht gerechnet, als ich die Urlaubsreise buchte* **2** Man kann **freilich** benutzen, wenn man deutlich "Ja" sagen möchte: ≈ natürlich, selbstverständlich: *"Musst du morgen in die Arbeit?" – "(Ja), freilich."*	*Adv;*

futtern Man sagt: Jemand **futtert**, wenn er viel und mit großem Appetit isst	*trans./intrans Verb*

geschehen 1 Wenn etwas, z.B. ein Unglück, **geschieht**, passiert es ≈ etwas ereignet sich <ein Unfall, ein Unrecht, ein Wunder >: *Der Unfall geschah, kurz nachdem wir in die Hauptstraße eingebogen waren; Es geschieht immer wieder, dass...* **2** Wenn jemandem etwas **geschieht**, passiert ihm etwas, das meistens negativ oder schlimm ist ≈ etwas widerfährt jemandem: *Wenn sie weiter so unvorsichtig ist, wird ihr noch ein Unglück geschehen; Keine Angst, hier kann dir nichts geschehen!* **3** Etwas **geschieht mit einer Person** oder **Sache** bedeutet: Es wird entschieden, was mit der Person oder Sache passieren soll: *In dieser Angelegenheit muss endlich etwas geschehen!; "Was geschieht mit den Kindern, wenn ihr in Urlaub seid?" – Sie bleiben bei der Oma"* **4** Wenn man etwas **geschehen lässt**, toleriert man es oder tut nichts dagegen, auch wenn es falsch oder schlecht ist: *Wie konntest du nur geschehen lassen, dass er zu Unrecht beschuldigt wurde?; Er war so müde, dass er alles ohne Protest mit sich geschehen ließ* **5** "Gern **geschehen**" ist eine höfliche Antwort, wenn jemand "Danke" gesagt hat: : *"Vielen Dank für deine Hilfe" – "Bitte, gern geschehen!"* **6 Das geschieht ihm/ ihr recht!** bedeutet: Das hat er/sie verdient!: *"Er ist in der Prüfung durchgefallen." –"Das geschieht ihm recht – er hätte sich ein bisschen besser vorbereiten müssen"* **7 Es ist um jemanden** oder **etwas geschehen** bedeutet: Jemand oder etwas kann nicht mehr gerettet werden ≈ ist tot oder kaputt **8 Geschehe, was da wolle!**, bedeutet: Es ist mir egal, was passiert!	*intrans. Verb; geschieht, geschah, ist geschehen*

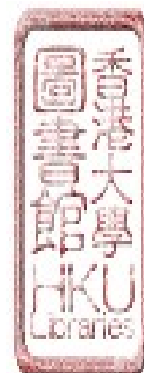|	
Getreide *das* **Getreide** sind alle Pflanzen mit Körnern, aus denen man Mehl machen kann, z.B. Weizen, Roggen, Gerste, Hafer, Reis, Mais. <Getreide anbauen, mähen, ernten, dreschen; das Getreide steht gut> || K- : *Getreide-, -anbau, -art, -ernte, -export, -feld, -handel, -import, -lieferung, -mühle, -silo, -sorte* ||-K: *Futter-; Sommer-, Winter-*	*-s; nur Singular; Kollektiv*

Gewerkschaft *die* Eine Gewerkschaft ist eine Organsiation, die die Interessen von Arbeitnehmern gegenüber den Arbeitgebern und dem Staat vertritt. Sie kämpft z.B. für kürzere Arbeitzeiten oder bessere Bezahlung *die Gewerkschaft der Angestellten* ‖ K-: *Gewerkschafts-, -beitrag, -bewegung, -führer, -funktionär, -mitglied, -sekretär, -sitzung,- vorsitzende(r)* ‖ -K: *Drucker-, Eisenbahner-, Polizei-* usw ‖ *hierzu* **gewerkschaftlich** *Adj*	*-, -en;*

Gewohnheit *die* Wenn man eine Gewohnheit hat, tut man etwas oft oder regelmäßig <eine alte, feste, liebe, schlechte Gewohnheit; etwas aus reiner Gewohnheit tun; seine Gewohnheiten ändern>: *Unsere Sitzungen sind zur Gewohnheit geworden* (= haben keine besondere Bedeutung mehr); *Sie hat die Gewohnheit, nach dem Essen eine Zigarette zu rauchen* ‖ K-: *Gewohnheits-, -trinker, -verbrecher* ‖ -K: *Denk-, Lebens-, Trink-* 2 Man sagt **Das ist die Macht der Gewohnheit**, wenn eine Person etwas macht, was sie vielleicht nicht will, nur weil sie es sonst auch immer so macht. ‖ *zu* 1 **ge-wohn-heits-ge-mäß** *Adj; nur attr od adv;* **ge-wohn-heits-mä-ßig** *Adj; nur attr od adv*	*-; -en*

Hinterhof *der* Ein Hinterhof ist die Fläche hinter einem Haus oder zwischen mehreren Häusern. Ein Hinterhof ist oft dunkel.	

Indiz *das* 1 Ein Indiz oder Indizien sind die Informationen, die z.B. der Polizei zeigen, dass jemand ein Verbrechen begangen hat. Ein Indiz kann ein Gegenstand, z.B. ein Handschuh, sein, den der Verbrecher am Tatort vergessen hat. <die Indizien sprechen gegen jemanden; jemanden aufgrund von Indizien verhaften, verurteilen> ‖ K:- *Indizien-, -prozess* 2 Ein Indiz ist auch ein deutliches Zeichen ≈ Anzeichen <ein sicheres Indiz für etwas>	*-es In·di·zi·en meistens: Plural*

insgesamt Man benutzt insgesamt, wenn man von einer Summe, z.B. von Geld, oder von einem Ganzen spricht: ≈ zusammen: *Sie spielte in der Woche insgesamt zwanzig Stunden Tennis; "Ich hatte drei Bier, was macht das insgesamt?"*	*Adv;*

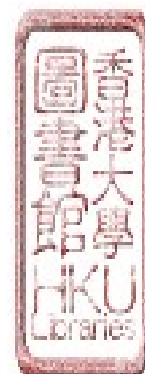|	
irritieren 1 Wenn mich eine Person oder Sache **irritiert**, werde ich unsicher, nervös oder verwirrt: *Ihr Lächeln irritierte ihn* 2 Wenn mich eine Person oder Sache **irritiert**, stört sie mich, z.B. bei der Arbeit: *Er machte Fehler, weil ihn der Lärm irritierte.*	*trans. Verb;* *irritierte, hat* *irritiert*

Kampagne *die* Wenn Leute eine **Kampagne** führen, argumentieren oder kämpfen sie öffentlich **für** oder **gegen** etwas, z.B. eine politische Entscheidung <eine Kampagne für den Umweltschutz; eine Kampagne starten>: *Die Kampagne gegen das Rauchen hat Erfolg.* ||-K: *Presse-, Werbe-* || ↑ Feldzug	

knabbern 1 Wenn man z.B. Schokolade **knabbert**, isst man kleine Stücke davon: *Vor dem Fernseher knabbert er gern Salzstangen* 2 Wenn man **an etwas**, z.B. einem Stück Brot, **knabbert**, beisst man kleine Stücke davon ab und isst sie: *an einem Keks knabbern; Der Hase knabbert an der Mohrrübe* 3 Man sagt: **Ich habe lange an etwas**, z. B. einem Problem, **zu knabbern**, wenn man lange Zeit braucht, bis man sich besser fühlt oder bis man das Problem lösen kann.	*knabberte;* *hat* *geknabbert* *1 trans.Verb* *2 intrans.* *Verb*

Kohlenhydrat *das*: **Kohlenhydrate** sind eine Substanz, die man in der Nahrung findet, z.B. in Zucker und Brot. Sie versorgen den Körper mit Wärme und Energie: *Kartoffeln sind reich an Kohlenhydraten*	*-(e)s; -e*

Kur *die* 1 Eine **Kur** ist eine medizinische Behandlung, um die Gesundheit zu verbessern. Während der **Kur**, die meistens mehrere Wochen dauert, wird der Patient von Ärzten behandelt, macht oft eine Diät und treibt Sport <eine Kur machen> || K-: *Kur-, -mittel* ||-K: *Bäder-, Entschlackungs-, Entziehungs-, Fasten-, Obst-, Saft-, Trink-* 2 Wenn man **zur Kur ist**, ist man in einem besonderen Krankenhaus, das in einem Ort mit guter Luft liegt. In **Kurorten** gibt es oft besonders gesundes Wasser < (irgendwo) zur/auf Kur sein; zur / auf Kur gehen, fahren> || K-: *Kur-, -arzt, -aufenthalt, -gast, -klinik, -ort, -park*	*-; -en*

laufen 1 Wenn man **läuft**, bewegt man sich sehr schnell, z.B. weil man es eilig hat. Beide Füße sind dann für kurze Zeit in der Luft ≈ rennen <schnell, langsam laufen; um die Wette laufen>: *Er lief so schnell er konnte; Wenn du den Zug noch erreichen willst, musst du laufen!; Mit erhobenen Armen lief sie durchs Ziel* 2 **laufen** bedeutet auch sich auf den Füßen vorwärts zu bewegen, aber nicht unbedingt schnell ≈ gehen <auf u. ab, hin u. her, an Krücken, am Stock laufen>: *Unser Kind hat schon sehr früh laufen gelernt; In Schuhen*	*intrans.Verb;* *läuft, lief, ist /* *hat gelaufen* *1 ist*

mit hohen Absätzen kann ich nicht gut laufen; Fahren wir mit dem Bus oder wollen wir laufen? "Wie weit ist es denn zum Schwimmbad?" – "Etwa zehn Minuten zu laufen."

3 Wenn man **gegen** oder **In** jemanden oder etwas läuft, ist man nicht vorsichtig und stößt mit jemandem oder etwas zusammen <jemandem ins Auto laufen>: *Er war so betrunken, dass er voll gegen / in den Zaun gelaufen ist*

4 Wenn etwas, z.B. ein Motor, läuft, dann ist es eingeschaltet. Man sagt: Ein Motor **läuft gut**, wenn er gut funktioniert <Maschinen, Geräte, Motoren>: *Seit der Reparatur läuft der Plattenspieler wieder einwandfrei; Bei laufendem Motor darf man nicht tanken* || K-: **Lauf-, -geräusch**

5 laufen bedeutet auch, dass sich etwas irgendwo bewegt: *Das Seil läuft über Rollen; Der Wagen läuft auf Schienen; Ein Zittern lief durch ihren Körper*

6 Wenn z.B. Wasser läuft, fließt es ≈ rinnen: *Tränen liefen ihr über die Wangen; Er ließ Wasser in den Eimer laufen*

7 Wenn ein Schiff **auf Grund läuft**, fährt es an eine zu flache Stelle im Wasser und kann nicht weiterfahren

8 Wenn etwas, z.B. Käse oder Schokolade, läuft, wird es zu weich und fängt an zu fließen

9 Wenn eine Veranstaltung, z.B. ein Film oder ein Theaterstück **läuft**, steht sie gerade auf dem Programm und wird gezeigt: *Was läuft gerade im Kino?; Der Film lief letzte Woche schon im Fernsehen*

10 Wenn etwas, z.B. eine Beziehung, gut oder schlecht **läuft**, entwickelt es sich gut oder schlecht: *Die Verhandlungen sind sehr günstig für uns gelaufen; Wie läuft es denn so mit Gerhard und dir? Du weißt ja, wie es oft läuft – erst freut man sich lange auf etw., und dann wird doch nichts draus*

11 Wenn etwas, z.B. ein Vertrag, für eine Zeit, z.B. ein Jahr, **läuft**, ist es für diese Zeit gültig ↔ auslaufen: <ein Abkommen, e-e Abmachung, e-e Vereinbarung>: *Mein Arbeitsvertrag läuft noch bis Ende des Jahres*

12 Wenn etwas, z.B. eine Anfrage oder Bewerbung, noch **läuft**, wird es gerade entschieden und ist noch nicht zu Ende: <die Verhandlungen>: *Gegen ihn läuft e-e Anzeige wegen Trunkenheit am Steuer*

13 Wenn etwas, z.B. ein Geschäft gut **läuft**, entwickelt es sich gut und der Verkauf geht gut: *Das neue Modell läuft sehr gut; Die Zeitschrift läuft nicht so wie erwartet*

14 Wenn z.B. ein Auto oder ein Konto **auf den Namen** einer Person **läuft**, ist diese Person als Besitzer registriert

15 Wenn einer Person **die Nase läuft**, hat die Person Schnupfen und ihre Nase tropft

16 **Laufen** ist auch eine Sportart: *Sie läuft die hundert Meter in zwölf Sekunden; Er hat / ist heute einen Rekord gelaufen* || K-: **Lauf-, -schuh, -training;**

17 **Rollschuh, Schlittschuh** oder **Ski laufen** bedeutet Rollschuh, Schlittschuh oder Ski fahren: *Wir sind früher oft auf dem Teich Schlittschuh gelaufen; kannst du Ski laufen?*

18 Wenn man **sich die Füße wund läuft** oder **sich Löcher in die Schuhe läuft**, läuft man so lange, dass man kaputte Füße oder kaputte Schuhe hat.

19 Wenn man **sich müde läuft**, läuft man so lange, bis man müde ist <sich warm laufen, sich wund laufen>

20 Man sagt: **Es läuft sich gut** oder **schlecht**, wenn z.B. Schuhe bequem oder unbequem sind: *In den neuen Schuhen läuft es sich gut; Auf Gras läuft es sich weicher als auf der Straße*

21 **Na, wie läuft's** bedeutet: Wie geht es dir?

22 **Das läuft wie geschmiert** bedeutet etwas, z.B. ein Plan oder ein Geschäft entwickelt sich sehr gut

zu 16 – 18: kein Passiv
19 *reflex. Verb; hat*

20 *unpersönl. Verb; hat*

21.– 24 *gespr*