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DICTIONARIES, FOREIGN LANGUAGE LEARNERS AND TEACHERS

New challenges in the digital era

Abstract In foreign language teaching the use of dictionaries, especially bilingual, has always been related to the hypotheses concerning the relationship between the native language (L1) and second language acquisition method. If the bilingual dictionary was an obvious tool in the grammar-translation method, it was banned from the classroom in the direct, audiolingual and audiovisual methods. Also in the communicative method, foreign language learners are discouraged from using a dictionary. Its use should not obstruct the goals of communicatively oriented foreign language learning – a view still held by many foreign language teachers.

Nevertheless, the reality has been different: Foreign language learners have always used dictionaries, even if they no longer possess a print dictionary and mainly use online resources and applications. Dictionaries and online resources will continue to play an important role in the future. In the Council of Europe's language policy, with its emphasis on multilingualism and lifelong learning, the adequate use of reference tools as a strategic skill is highlighted. In several European countries, educational guidelines refer to the use of dictionaries in the context of media literacy, both in mother tongue and foreign language teaching. Not only is their adequate use important, but so too is the comparison, assessment and evaluation of the information presented, in order to develop Language Awareness and Language Learning Awareness. This is good news. However, does this mean that dictionaries are actually used in class? What role do dictionaries play in foreign language teaching in schools and universities? Are foreign language learners in the digital era really competent users? And how competent are their teachers? Are they familiar with the current (online) dictionary landscape? Can they support their students? After a more in-depth study of the status quo of dictionary use by foreign language learners and teachers and the gap between their needs and the reality, this contribution discusses the challenges facing lexicographers and meta-lexicographers and what educational policy measures are necessary to make their efforts worthwhile in turning foreign language learners – and their teachers – into competent users in a multilingual and digital world.

Keywords Dictionaries; dictionary use; dictionary teaching; dictionary didactics; online resources; foreign language learner; foreign language teacher; language awareness; foreign language teaching; lifelong learning, reference tools, media literacy

1. Dictionaries and lexicographic resources as important reference tools in foreign language learning

In education systems throughout the world, lexicographic products have always been necessary aids to improve language skills and facilitate the study of foreign languages. The significant role that lexicographic activities play in society has been recognised in international politics, inter alia, in 1975 in the Helsinki Final Act of the Conference on Security and Cooperation in Europe.

The classification of lexicography as a cultural practice (“kulturelle Praxis”, Wiegand et al. (eds.) 2010 pp. 3, 103) also demonstrates its important pedagogical-cultural role. Although dictionaries have changed in terms of structure, appearance and medium, due especially to globalisation and digitalisation, their importance for society, as well as for the individual, has by no means diminished. On the contrary, dictionaries, encyclopaedias and reference

works in general are not only a fundamental tool for translating and learning a foreign language, but their adequate consultation is one of the basic strategies for obtaining new information and accessing the world of general knowledge. The Council of Europe's language policy, with its emphasis on multilingualism and lifelong learning, states that reference works, as well as a high level of research competence and adequate use of strategies are of fundamental importance. (Council of Europe 2001, 2018). Nowadays, with the multiplicity of lexicographic resources, it is particularly important to be familiar with good-quality resources, to have a critical view and to be able to distinguish, with the help of pre-established criteria, what kind of resources are appropriate in a specific situation and context and for a particular task with a precise goal. Well-developed media literacy, with the appropriate use of dictionaries and lexicographic resources, is an essential learning strategy.

2. The use of dictionaries and lexicographic resources in foreign language teaching

In modern language teaching, the use of dictionaries, especially bilingual, was always linked to the hypotheses regarding the relationship between first and second language acquisition and to the associated use of the mother tongue and language comparison as a method and strategy. While the bilingual dictionary was an obvious aid in the grammar-translation method, it was banned from the classroom in the direct, audiolingual and audiovisual methods. In the communicative method, too, learners were not allowed to use a bilingual dictionary under any circumstances, but only if necessary they could use a monolingual one. There was a great fear of reverting to the grammar-translation method. In addition, the opinion that using dictionaries contradicted the goals of communicative foreign language teaching was widespread. Vocabulary acquisition and relatively fast communication competence were not supposed to be clouded by too much reflection on correctness. (Herbst/Klotz 2003, p. 288) Nevertheless, the reality was different: “nearly all students use dictionaries practically every day” (Snell-Hornby 1987, p. 167) This statement is still true today, even if the medium has changed.

As we have already mentioned, the use of dictionaries in foreign language teaching officially became more important again with the publication of the Common European Framework of Reference for Languages (CEFR) (Council of Europe 2001), because the aim of foreign language teaching is not only to improve language competence, but also to successfully cope with foreign language situations. (Herbst/Klotz 2003, p. 288) Learner autonomy, language awareness and the use of strategies became increasingly important and the realisation that dictionaries and their competent use are indispensable for learning a foreign language in the long term was no longer ignored. (Zöfgen 2010, p. 108) As a consequence of this development we can find recommendations on dictionary use in educational guidelines and curricula in various European countries, i.e. Germany and Italy (Nied 2015; Abel in this volume). The use of dictionaries is once again officially allowed; the practice, which had long been common, has thus been legitimized.

Nevertheless, it must be noted that dictionaries and lexicographic online resources and applications are still neglected in foreign language teaching. There are still teachers who are convinced that referring to dictionaries takes too long and interrupts the language learning process, so consulting them on a tablet or smartphone is usually only possible for learners outside class. This means that students are left on their own and are often, therefore, greatly lacking in the knowledge, skills and strategies regarding the use of dictionaries. At the same

time, they expect the teacher to present various resources for learning and to explain their use.

Even if there are teachers who want to teach dictionary use, it is up to the individual teacher to decide whether and how much to use a dictionary. Furthermore, they have very little support. The official curricular guidelines are too vague and also exercises in textbooks include tasks such as “work with a dictionary“, “use a dictionary“ or “the dictionary will help you“ – instructions that are actually worthless.

Therefore, it is not clear where and how foreign language learners should learn to use a dictionary. While the use of dictionaries is practised in the teaching of L1 (mainly at primary school level and, unfortunately, often to learn the alphabet or only to look up the meaning of an unfamiliar word (cf. Merten 2011), foreign language teachers often take it for granted that students have learnt to use a dictionary in their mother tongue lessons and can therefore now apply this ability quite naturally to foreign language learning (cf. Bimmel/Van de Veen 2000, p. 38). Foreign language teachers, as we will see in section 3, are often convinced that digital natives are much better at using online dictionaries and apps than they are. This misconception means that no dictionary teaching takes place.

As far as online dictionaries and lexicographic applications are concerned, they are frequently banned from the classroom. Needless to say, this decision is justified if the aim is to assess and/or test a certain language skill, especially vocabulary. However, knowing that students are using online bilingual dictionaries on mobile devices or computers anyway, it would make more sense to show them the better ones. Experimenting with and analyzing different types of dictionaries may help in the language learning process. It would be useful to discuss their pros and cons or problems in their use and, above all, to reflect with the students on their own competence in using them. Moreover, paradoxically, it is often common practice that in official examinations for language certificates only the use of printed dictionaries is allowed.

This misconception about dictionary use has existed for a long time and has meant that there has been very little specific teaching of the topic. As a result, there is no conscious reflection on whether, when and how to use the dictionary. In the age of the Internet, analyzing and discussing online dictionaries and language resources in general - should play a fundamental role in foreign language learning, in order to develop language awareness, language learning awareness and also critical media literacy, as required by the CEFR and consequently by educational guidelines.

3. Foreign language learners as subjects in the Research into dictionary use

Thanks to the emergence of a new field of research, Research into dictionary use, and by developing the theoretical and methodological bases, Herbert Ernst Wiegand (1936–2018) paved the way for empirical studies. This field has gained importance in recent years, particularly since the 1990s, and much empirical research into dictionary use has been carried out by lexicographers and meta-lexicographers. The number of studies has reached such proportions that an overview has become increasingly difficult (cf. Tarp 2009, p. 276). There are now more than 250 empirical studies on dictionary use in the field of foreign language teaching, or with a foreign language learner as user (Nied Curcio 2022). As a result, today, in 2022, one could actually assume that the dictionary user, the former “bekanntere Unbe-

kannter” (‘known unknown’), (Wiegand 1977, p. 59) is quite well-known. Unfortunately, this is not necessarily the case because, 1. the classic dictionary has changed fundamentally in its form, 2. foreign language learners rarely use printed dictionaries any more, but rely on online dictionaries and apps, 3. there are more and more hybrid forms, such as dictionaries + grammar tables and dictionaries + text translations, which foreign language learners like to use (Müller-Spitzer et al. 2018, p. 298), and 4. dictionaries are sometimes also completely replaced by automatic translators, Google searches and also extra-lexicographic resources. (Frankenberg-Garcia 2005; Caruso/De Meo 2012; Gromann/Schnitzer 2015)

Another issue must also be addressed: how long the results retain their validity. Many studies, in which the printed dictionary was the subject, may have lost their ‘eternal validity’ due to digitalization and today’s almost exclusive use of electronic and online dictionaries. Although the results are still interesting, they need to be re-analysed and re-examined along with dictionaries currently in use. The act of usage takes place in a totally different way and the difficulties or even errors in using these resources are different from those of using a printed dictionary or an electronic one in the 1990s. We should also consider whether the situation and context of usage and usage task would still be authentic in today’s teaching.

For this reason, research into dictionary use is, in my opinion, in a very challenging situation, precisely because the object of study is online dictionaries, applications, hybrid forms etc. and all these are constantly evolving (and improving). This also applies to translation programmes such as Google translator or DeepL. Changes and updates of online dictionaries and translation programmes often take place without the user being informed or aware of them. They are usually corpus-based and algorithmic resources and it is a constantly evolving process. If studies were carried out today, the results could lose their validity after a short space of time. This was not the case when the printed dictionary was the object of study, because often years passed between one edition and another, and the differences between the two editions could also be studied. Dictionary criticism and research into dictionary use could influence the lexicographic process and new editions, which is almost impossible today.

3.1 Foreign language learners and their dictionary use competence

It is mainly to the credit of Andreas Herbert Welker that an overview was presented for the first time (2006, 2010). In his *overview* Welker (2010) proposes a division into six categories: 1. surveys, 2. studies on actual dictionary use, 3. studies on the effect of dictionary use, 4. studies on specific dictionary features and on specific dictionaries, 5. research on the use of electronic dictionaries and 6. research on the teaching of dictionary use. In recent decades, a number of empirical studies on the use of electronic and online dictionaries and also on the use of online resources in general during the learning process have been published. The survey, and especially the questionnaire, is still one of the most applied methods, while studies on paper dictionaries are, for obvious reasons, disappearing. In addition, it can be observed that in recent years there has been an increase in the number of studies carried out in a concrete situation, with a specific task and with the aim of obtaining information on the effect of use. There are still relatively few studies on the effect of dictionary didactics.

In the following chapters, the results of studies spanning some 40 years (1979–2021) are presented in an extremely concise way.¹ Most of the empirical research concerns the use of dictionaries in the context of English as a foreign language by learners of different L1 languages, e.g. Arabic, Chinese, Japanese, Swedish or groups of learners with several L1 languages. There are far fewer studies on the use of dictionaries for other foreign languages. However, as can be seen, the foreign language learner's behavior in using the lexicographic resource depends little on L1 and L2. In the description we follow Welker's categorization, omitting 4. because it is less relevant to the field of foreign language teaching.

3.1.1 Surveys

The following results emerge from the questionnaire studies of recent years²:

- Not surprisingly, foreign language learners prefer the bilingual dictionary.
- The monolingual dictionary is mainly used at an advanced level of proficiency. It is assumed that this is as a result of the teaching method and/or the advice given by the teacher.
- It is also interesting to note that dictionary use generally decreases as the learner reaches a higher language level, i.e. when he/she acquires advanced competence.
- Regarding the situation and context of usage, it has been ascertained that dictionaries are mostly used in translation, written reception and written production.
- Also in relation to the situation and context of usage, foreign language learners mainly look for the meaning of an unknown word as part of the decoding process. They often also look for pronunciation and grammatical information.
- In bilingual dictionaries, students concentrate on finding equivalents.
- Foreign language learners go directly to the information they are looking for and do not read the whole dictionary entry. Moreover, most students do not read the introductory notes (preface, instructions for use) before using it. The most important thing for students is that the search leads quickly and directly to a result.
- Many students are dissatisfied with dictionaries due to a) the lack of the headword, b) the definition and/or explanation, c) the examples.
- They also complain that the entries and explanations (especially in monolingual dictionaries) are too long and/or complex.
- With regard to the bilingual dictionary, students are not satisfied because they are confused by the large number of equivalents and have difficulty in choosing the appropriate one for a specific context of usage.

Of course, dictionaries are not always satisfactory. They are not complete, have gaps, are complex and not always easily accessible or user-friendly. However, not all mistakes in using a dictionary are due solely to the dictionary and its content. Several studies indicate that users are not able to use a dictionary adequately. There are various reasons for this. Foreign language learners are not familiar with the overview of dictionaries and do not know which

¹ For obvious reasons, the individual studies cannot be listed by name.

² These are results that are repeated in very many studies and can therefore be listed as frequent. Due to the varying number of studies in terms of results, percentages are avoided.

are suitable for their needs, so they rarely use different types of dictionaries. Indeed, many beginner and intermediate learners are not familiar with their dictionaries and often have unreasonable demands on them. What also often happens is that students do not notice metalinguistic/grammatical information – such as indications on the gender or the regency of verbs (valency) – within a lexicographic entry, or have difficulty deciphering abbreviations and symbols.

These results are certainly also due to the fact that the majority of foreign language learners have not previously received instruction or training in the use of dictionaries, while learners with dictionary training are definitely more experienced because they are skilled users (cfr. 3.2.5).

3.1.2 Studies on actual dictionary use

For many years, researchers in the field of dictionary use did not focus on the user in actu, i.e. the user who, at the moment of the research, is in a concrete and authentic situation of usage, but on potential users, ex actu or post actum. Instead, in order to examine how dictionaries are ‘really’ used, it is necessary to observe the user in actu (preferably with external observers).

In this chapter, studies that focus on the user in actu are summarized. The most applied methods are observations (including video recordings), usage records, experiments and analysis with log files and eye-tracking. Written usage records are the most applied method. With the increasingly frequent use of electronic dictionaries, studies using log files have also increased. The use of think-aloud-protocols and eye-tracking is still rather rare.

In relation to the results described in this paragraph, it must be considered that the majority of studies concern translation exercises into both L1 and L2, even within foreign language teaching. Translation as a task is employed in the grammar-translation method. We can observe that the results are very similar to those obtained through the questionnaires:

- Dictionaries are mostly used in the decoding process and/or during translation.
- If subjects are free to choose their own dictionary, they prefer a bilingual one.
- In bilingual dictionaries, learners focus on searching for equivalents and/or example sentences.
- A monolingual dictionary is used if the bilingual dictionary does not provide sufficient contextual information about a word.
- Participants usually scroll through the various meanings within an entry rather quickly, focusing mainly on information indicating the meaning, until they are convinced they have found the right meaning. At this point, they proceed to read more carefully.
- Other researchers have found that users normally read the first definition, but often do not even look at the second one or do not complete the reading of the entry.
- In addition, detailed eye-tracking data found that users generally read dictionary entries from top to bottom rather than from bottom to top.
- There is a tendency for foreign language learners to search for single words and much less for phrasemes or parts of sentences.
- Studies have shown that there is a correlation between language level and adequate dictionary use.

- Many studies with the user in actu have revealed difficulties in the use of dictionaries which are almost identical to those found through questionnaires, for example:
- When translating into the foreign language, many students have difficulties in selecting the appropriate equivalent for the specific context.
- Some problems occur especially with common language words, polysemous verbs, homonyms, phrasal verbs and phrasemes.
- Another difficulty mentioned by the students is the fact that the dictionary entry (especially the monolingual one) is too long and complex.
- In some studies, the difficulties lie in the fact that the information sought is missing or the users are unable to find it.

A number of scholars argue that difficulties in the use of dictionaries result from the fact that students do not have adequate competence in dictionary use. The students ignore metalinguistic/grammatical indications and do not use hyperlinks in online dictionaries, or do not use a dictionary at all. In the case of lexical gaps students prefer to ask the teacher instead of using a dictionary.

In contrast to this, successful and satisfied users use more resources. In general, they are students with advanced linguistic competence.

As already mentioned above, these results are very similar to those of the questionnaires, but less homogeneous as partly contradictory results also emerge. The reasons for this are various: the different design of the research, the selection of subjects, the varying number of subjects, the different tasks and their degree of difficulty, the duration of the research, the experience in using dictionaries and, not to be forgotten, the language level of the foreign language learners, the mother tongue.

3.1.3 Studies on the effect of dictionary use

The most frequent tasks to measure the effect of dictionary use are reading (written reception), writing (written production) and translation. Often, when researchers use the word writing, they mostly mean writing sentences and not texts. In general, subjects are asked to write single sentences. The task of translating is similar, as subjects are mostly not required to translate whole texts, but only isolated sentences or words extracted from texts. In reading tests, users sometimes do not read the texts, but are asked to insert words in the empty spaces within isolated sentences, or to translate words or sentences without differentiating whether the reported difficulties were in understanding or in not finding a correct equivalent. In a few studies, subjects are asked to correct sentences in a foreign language that contained errors typical for this type of learner.

Another point of discussion regarding this type of study is that users are often only given excerpts or single entries from dictionaries, i.e. they do not really have a dictionary to hand. A further problem is that the results of the studies are often linked to specific products, so that comparison between studies is difficult and it can be argued that for this very reason there is no generally valid statement.

There are also studies that have found no significant difference in effectiveness between dictionary use and non-use and others that state the exact opposite. The same applies to the difference between bilingual and monolingual dictionaries, and also between printed and electronic ones.

Furthermore, some scholars believe that consulting a dictionary is of no help when it comes to memorizing new words. Wolfer et al. (2016) argue that dictionary use can be useful but only in the case where the user, in the first instance, realises that he or she is faced with a language problem to be solved and then, in the second instance, uses the lexicographic resource. This relationship between language awareness and the (adequate) use of a dictionary is also discussed in some studies which had not focused on this aspect in their design and research objective (Müller-Spitzer et al. 2018). We have to say that there are few ‘real’ studies on the effectiveness of the dictionary. Moreover, their results are very inconsistent and often contradictory.

3.1.4 Research on the use of electronic dictionaries and online resources

With the arrival of electronic dictionaries in the 1990s, studies initially focused on their use as opposed to the use of printed dictionaries. From the very beginning, foreign language learners appeared motivated to use electronic dictionaries and this has been confirmed recently. Today, we know that students mainly use online dictionaries and applications, also on mobile devices, to overcome language difficulties. The use of smartphones offers foreign language learners an almost unlimited choice of possibilities to overcome existing language difficulties in a matter of seconds and mostly free of charge. We know that many foreign language learners no longer buy a printed dictionary and do not spend money on online access. They appreciate the fast, easy access of online dictionaries and the fact that they are free and always up-to-date. They also like the fact that by entering the first letters in the search engine, they are guided to the respective entry and they find the spell-checker very useful. However, it is precisely this speed that leads to the inappropriate use of the resource (Müller-Spitzer et al. 2018).

In my opinion, when comparing the use of printed dictionaries with the use of electronic ones, it is striking that there are parallels in user behaviour. The same difficulties emerge: disorientation, lack of knowledge about dictionaries, looking up single words, choosing the first equivalent, mainly consulting examples etc. Students generally do not read all the information in the entry and do not ‘scroll down’ but tend to focus on the part that is directly visible on the monitor. Furthermore, detailed eye-tracking data reveals that users generally proceed from the top of the entry downwards rather than from the bottom upwards. This vertical reading seems to be one of the reasons why students do not see the solutions offered in bilingual dictionaries on the right side of the dictionary entry and consequently the consultation is not successful (Nied Curcio 2014; Runte 2015; Müllers-Spitzer et al. 2018). So far, we can only speculate on the causes: either the electronic version is identical to the printed version, or the students use the online dictionary in the same way as a printed dictionary. From this point of view, the negative results seem even more serious, as the technical potential actually offers unlimited search possibilities.

It seems that the behavior of language learners is also changing. Recent studies have shown that more and more learners are looking up words in a search engine. Search engines seem to be taking over the main functions of a monolingual dictionary, such as providing definitions or examples, and partially replacing bilingual dictionaries, providing equivalents and spelling. The act of consulting an online dictionary also increasingly resembles the use of a search engine because students expect the online dictionary to ‘behave’ like a search engine. In search engines, users often enter the unknown foreign word, together with a metalinguistic term or with a kind of key word, e.g.: “Konjunktiv 2 mit wenn” or “deshalb signficacido” (Müller-Spitzer et al. 2018, p. 292). It is also interesting that, in the same study, students

distinguish between dictionaries and automatic translators. In dictionaries, they tend to look for single words, whereas in automatic translators they enter complex words, syntagmas and complete sentences.

To solve problems in the foreign language, today's foreign language learners do not only use lexicographic online resources, but also extra-lexicographic resources and combinations of resources that also include dictionaries with grammar tables, dictionaries with automatic translators and dictionaries that are based on parallel texts.

Furthermore, it could be stated, that there is a correlation between the language level (also of L1), the language awareness, the ability to use strategies and an adequate use of dictionaries. The higher the linguistic level, the more the students are able to use strategies; the longer they reflect, the more satisfactory and adequate the use of the online resource is. The level of language awareness seems to be the crucial prerequisite for the competent use of dictionaries and lexicographic online resources (Frankenberg-Garcia 2011; Nied Curcio 2020).

3.1.5 The effect of dictionary teaching

There are very few empirical studies on the effectiveness of dictionary teaching, but they show a significant improvement in the use of dictionaries by skilled users, who also improved their search strategies and were able to reduce errors in the foreign language (Lew/Galas 2008; Welker 2010, pp. 313–321). Targeted teaching of word combinations, e.g. collocations, phrasal verbs and idioms, and looking them up in dictionaries meant that students' attitudes improved and errors in this field decreased. Students learned that words have relationships with each other and how important it is to look up combinations of words as well as a single word.

When students are asked, they express a desire to learn more about the lexicographic tools available. They want to know which language learners' dictionaries are available, which are the most valid, how they are designed and structured and how to recognize reliable information. They show great interest in improving their skills in using dictionaries and online resources, with the aim of making fewer mistakes in the foreign language.

4. Foreign language teachers and their dictionary use competence

Studies on foreign language teachers' competence in dictionary use are almost non-existent. Based on my experiences in training courses for foreign language teachers, it seems that teachers are still experienced users of printed dictionaries, but are not very familiar with online dictionaries and applications. As we have already mentioned, the use of bilingual dictionaries is often not allowed in the classroom and online dictionaries and applications are almost completely excluded.

In order to learn more about teachers' competence in using online resources and apps, I carried out a small research project during a workshop on dictionary teaching³ in 2017, with 50 teachers of German as L2 in Italy, using a multi-methodological approach. A question-

³ From here on, the term dictionary teaching is used in a broader sense. It refers not only to dictionaries, but also to lexicographic online resources, hybrid forms (i.e. dictionaries and grammar tables) (cf. 3.), search machines and translation programmes.

naire about the teachers' use of lexicographic tools in general and in class was distributed at the beginning of the teacher training course. The main part of the course was a workshop where the teachers were asked to experiment freely with various online dictionaries and apps and also translation programmes. There were breaks for discussion and reflection on the tools and the teachers' own user behaviour. At the end of the course the teachers completed another questionnaire in order to assess whether the workshop had been useful and, more importantly, whether their attitude towards the use of online dictionaries and apps in class had changed. Some of the main results will be listed below:

- The first questionnaire, comprising general questions, confirmed that the majority of teachers allow the use of a printed dictionary in class (46 subjects give their students permission to use a bilingual printed dictionary and 5 allow the use of a monolingual printed dictionary), but only 18 teachers permit the use of online dictionaries on tablets and smartphones and only 7 of them allow the use of applications in class.
- The four teachers who do not allow the use of dictionaries in their classroom justify their decision with the following reasons:
 - students will use words they know,
 - the language level is too low,
 - students have difficulties in using dictionaries,
 - students are too distracted,
 - the use of smartphones is forbidden,
 - no computers/tablets are available
- Instead, almost all the teachers (49) allow the use of dictionaries for homework.
- More than half of the teachers (27) think that students are able to use online dictionaries and related applications; 22 teachers are of the opposite opinion and one teacher did not answer.
- The results show that 16 teachers use monolingual printed dictionaries and the same number of teachers also use bilingual printed dictionaries.
- 21 teachers use online dictionaries on their smartphones, and 8 use apps on smartphones and tablets.
- What is striking is the teachers' self-assessment data. 34 teachers admit that they are not familiar with the use of online dictionaries and lexicographic applications.
- When asked if they also use translation programs, only 4 teachers reported using them.⁴

The second questionnaire was completed after the dictionary training session. Due to the short duration of the workshop, it is unreasonable to expect that the teachers could have become fully-informed and skilled users. All teachers (50) indicated that the course had been very useful, that they had enjoyed it very much and that they especially felt that they were now more familiar with online dictionaries and lexicographic applications. The aspect of learning by doing, of exploring and experimenting with the various resources at first hand, and of comparing and evaluating them was rated as very positive. 22 teachers appreciated the fact that they had discovered many new online dictionaries and applications, and had thus gained a better overview of existing resources that can be used for teaching. They

⁴ This could also be the problem of desirability: "Are subjects saying [...] what they do, or what they think they ought to do, or indeed a mixture of all three?" (Hatherall 1984, p. 184) .

felt that it was useful to learn more about the structure of a dictionary and the microstructure of a lexicographic entry and to understand how translation programmes work.

It is therefore clear that dictionary teaching can have a beneficial effect and can even influence or change the participants' attitude. Some teachers decided to start using online dictionaries or to pay for an online dictionary or to reflect on how to incorporate the use of online dictionaries and applications better in their teaching. When asked whether they would now, after the course, incorporate online dictionaries and apps into their German lessons, all 50 teachers said yes. This shows that even the most skeptical, and those who had indicated that they would not allow the use of online dictionaries in class, had changed their minds. Nearly all teachers (47) would be willing to participate in a further course and would especially like to learn specifically how to include the use of online dictionaries and applications in their teaching. This paves the way for facing new challenges.

5. New challenges in the digital era: lexicographic tools in foreign language teaching

As we have seen, printed dictionaries are rapidly disappearing from the daily lives of foreign language learners and at this point it is not yet clear what role dictionaries will actually play not only in future foreign language teaching, but also in the area of academic and specialist knowledge acquisition. The dictionary as a lexicographic reference work, in its printed form, was a very specific physical object. With increasing digitalization, not only has its structure changed, but as we have already mentioned, hybrid forms have emerged, such as dictionary + grammar table, dictionary + grammar table + parallel text or even dictionary + parallel text + automatic translator, resources which were physically separate before the digital age. In addition, the overwhelming number of resources means an overall view is impossible. Often, neither the function nor the purpose of the resources offered is clear, and the authors are generally not explicitly mentioned. The quality is therefore no longer transparent. Many resources are updated automatically and constantly, so that the individual stages of the update are no longer distinguishable. This profound change in lexicographic practice is very often not perceived by foreign language learners, even though they regularly use these reference works. The data from research into dictionary use show how much lexicographic resources have changed in recent decades, and more strikingly, that there are parallels between printed dictionaries and online dictionaries in terms of usage behavior and users' difficulties over the same period. Perhaps this behavior is gradually changing and converging with the use of search engines and translation tools. This has not yet been confirmed from research, but it means that empirical studies have to be carried out in this direction.

If we focus on the foreign language learner as user in lexicographic practice, the potential user and the addressee must be linked together, which means that the development of a lexicographic resource should realistically be conceived with the potential user in mind. Very often, too many addressees are mentioned in dictionaries (also for commercial reasons). Lexicographic practice (and also theoretical discourse) should carefully consider the results of the research into dictionary use and thus focus more on the potential user and, in our case, on the foreign language learners' profile. For example, it would be extremely useful to create a specific online portal for a specific language learner profile, with the various dictionaries suitable for this type of user (similar to the one for linguistics students (<<http://www.linse.uni-due.de/>>)). This portal would provide helpful information i.e.: a) the macro-

and micro-structure of the dictionaries presented could be explained and commented on and there could be suggestions on how to use them (dictionary criticism at the service of the user); b) at the same time these listed resources could have hyperlinks. Existing portals are usually uncommented lists of dictionary titles. The selection criteria are not clear, but it is certainly not oriented towards the profile of a specific user. Such a portal for students and teachers, of a specific foreign language, should be conceived and created in collaboration with renowned lexicographic institutions and lexicographers, in cooperation with institutions responsible for education and teacher training, and perhaps even with the cooperation of teachers and their students.

User-orientation is also extremely important for future studies in the field of research into dictionary use, although the validity of the results could sometimes quickly become outdated due to the constant updating of online resources. The studies and results mentioned above invite us to undertake more extensive research, not limited exclusively to lexicographic resources, but also including search engines and automatic translators; they also urge us to investigate research competence and media literacy in general. In a sense, despite all the research undertaken in recent decades, the change in the “dictionary” medium has meant that we are once again faced with a “known unknown”. Research into dictionary use can indeed build on previous studies, but it must focus on this ‘new’ user, the digital native, whose approach to the use of online lexicographic tools on the one hand seems to be identical to the use of a printed dictionary, but on the other hand is also changing and moving towards the use of a search engine. Subsequently, it is extremely important to discuss the consequences for lexicographic practice.

At the same time, it is also necessary to work at an educational policy level. In the digital, global and multilingual world, which is characterized by lifelong learning, well-developed media literacy (with the appropriate use of dictionaries and online lexicographic resources) is essential as a learning strategy. Unfortunately, foreign language teaching has not really realized these new requirements, even though the CEFR explicitly refers to the importance of this competence and despite the fact that many European countries’ educational guidelines include the use of dictionaries/online resources explicitly in foreign language teaching. Online lexicographic resources should no longer be banned from foreign language teaching. It is neither sufficient to criticise the dictionaries, resources and online applications that learners use, nor to leave students on their own. After all, foreign language learners use dictionaries, with or without training. It would be much better to integrate the research tools they use into lessons, to reflect on their use and to enable learners to become experienced and skilled users.

There is a vital need for teaching how to use modern lexicography resources, and foreign language courses could be an excellent place in which to do this. However, teachers are not necessarily competent users of online lexicographic resources. Consequently, dictionary teaching cannot be implemented directly, but teachers should be trained first.

Efforts should also be made on another front: to set up a forum with publishers and textbook authors to focus on concrete exercises designed for various language activities that are clearly defined in their objective.

The biggest challenge is likely to be in bringing together the different fields of research into dictionary use, foreign language acquisition research, foreign language teaching and didactics, teacher training and lexicographic practice. In concrete terms, this will mean professionals from the various disciplines collaborating creatively with the aim of enabling for-

foreign language learners to become skilled, and successful users of online dictionaries and lexicographic resources and, in a broader sense, autonomous users in terms of critical media literacy. Above all, the goals should be for the foreign language learner to become a more 'known' user again and to respond more adequately to the digital user's needs in the various fields. Lexicographic resources should once again become a useful tool for foreign language users and their learning process in this Third Millennium.

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