

Dictionary Skills in Teaching English and German as a Foreign Language in Hungary: A Questionnaire Study

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Abstract

This study investigates the dictionary use of graduates in English and German as well as their attitudes towards teaching and learning dictionary skills in the classroom. The first section of the paper offers a historical overview of research on dictionary use and dictionary didactics in Hungary. This is followed by the detailed description of the quantitative research, which aims to investigate the participants' (n=197) self-reported preferences and attitudes regarding dictionary use, their dictionary consultation behaviour, and the role of dictionaries as an aid to language learning and teaching. The research results partly confirm the trends revealed in previous international studies (e.g. increased use of online tools, reluctance to pay for dictionaries, low prestige of teaching dictionary use); they also show that there is a need for dictionary use skills to be taught from an early age and for placing a special emphasis on features and search strategies in the case of digital dictionaries. Based on these findings, the authors plan to design a core 'dictionary skills' module (with teaching aids and handbooks), which could be incorporated into a variety of courses in tertiary education.

Keywords: dictionary use; digital dictionary; online dictionary; language learning; language teaching; dictionary didactics; questionnaire study

1. Introduction

'The history of lexicography goes back over 2,000 years' (Crystal 2003: 110) and its basic product (i.e. the dictionary) is symbolic for every nation, as it is of great importance in terms of language, literature, culture and history. One of the lexicographer's key tasks is to reduce speakers' linguistic insecurity and linguistic deficiencies. To do this, lexicographers must be able to identify and meet the needs of the prospective users of their dictionary. They need to know their target audience's reference skills (e.g. whether they can understand abbreviations) and needs (e.g. what they are looking for in the dictionary). This is the only way to create a user-friendly dictionary (cf. Rundell 1998, Atkins and Rundell 2008). The twentieth century saw a proliferation of dictionaries, especially learner's dictionaries, which clearly shows that user-friendliness came more and more into focus (Lew 2011, 2013, 2016, Müller-Spitzer 2012, Granger and Lefer 2016). Dictionary user surveys conducted from the 1960s onwards have revealed that there is a huge gap between the user and the dictionary (see some of the earliest surveys of dictionary use: Barnhart 1962, Quirk

1973, Tomaszczyk 1979, Battenburg 1991, Atkins and Varantola 1998). For instance, users do not have the reference skills required to find the information they are looking for in a sophisticated entry. There may be two possible ways of bridging this gap. First, lexicographers should strive to develop methods that match the linguistic knowledge of ordinary users and make dictionaries more user-friendly (cf. Frankenberg-Garcia 2015, Granger and Lefer 2016, Lew 2016). Second, users should also be trained to be more skilful in their use of dictionaries (e.g. Rundell 1988, 1999, Gates 1997, Atkins and Varantola 1998, Nesi, 1999, Bishop 2000, Campoy Cubillo 2002, Lew and Galas 2008, Chon 2008, Chen 2010, Chi 1998, 2011, Laufer 2011, Lew 2011, 2013, Gromann and Schnitzer 2016, Chen 2017, Nurmukhamedov 2017). Research on dictionary use has significantly changed lexicographic practice and made dictionaries more user-friendly. Unfortunately, the same cannot be said for the field of dictionary didactics concerned with the education of users. No extensive teaching of dictionary use is provided in schools and universities; this is especially the case in the Hungarian context (Márkus and Szöllösy 2006, Dringó-Horváth 2017).

2. Background

In a recent comprehensive study, Nied (2022) summarises the results of significant international research on the topic; therefore, the following review focuses specifically on Hungarian research. An interesting fact is that 'dictionary use' itself as an autonomous research field within lexicography was introduced at the 3rd International Congress of EURALEX (European Association for Lexicography) in Budapest (Hungary, 1988): a 'Dictionary Use' section was organised at the event (Braasch 2012). Research on dictionary use began in Hungary in the same year.

The Hungarian National Sociolinguistic Survey, devised in 1987 and conducted in 1988, included questions on dictionary use. Participants were asked what types of dictionaries they had at home on their bookshelves. The results showed that most of the participants (50% or more) owned the following dictionaries: a foreign language dictionary, a spelling dictionary, a dictionary of foreign words, a monolingual defining dictionary of Hungarian (Kontra 1997). In the early 2000s, Márkus and Szöllösy, with the support of the Hungarian Academy of Sciences, investigated the habits and strategies of dictionary use among secondary school students studying English as a Foreign Language (EFL) (Márkus and Szöllösy 2006).

Szöllösy (2004) had previously analysed the dictionary purchasing habits of Hungarian EFL learners, and on the basis of this research, she also examined the effectiveness of EFL students' dictionary use (Márkus and Szöllösy 2006). The research was conducted using a questionnaire supplemented with a dictionary use test. Participants (n=122) were asked what dictionaries they owned, how frequently they consulted them, and what their attitudes towards dictionaries were. A set of practical exercises was used to test whether secondary school EFL students could use their dictionaries effectively in order to identify the factors that cause problems and make it difficult to use a dictionary. It turned out that students had serious deficiencies in dictionary skills, often not knowing what, where and how to look up in a dictionary. Participants could not solve the tasks (in the dictionary use test) without errors. The tasks focused on the following main topics: abbreviations in dictionaries, interpreting grammatical information, finding meanings, idioms and phrasal verbs. The results indicated that students' language awareness and dictionary use awareness were very low. Accordingly, it was recommended that training in dictionary use be included in school and academic curricula (Márkus and Szöllösy 2006). As a practising lexicographer, P. Márkus (with the help of the outstanding lexicographer Tamás Magay and the co-author Eszter Magay Mozsár) felt obliged to tackle the problems by using the self-reported data as well as the test results to identify and improve the structure of entries in an innovative English–Hungarian/Hungarian–English learner's dictionary (Magay Mozsár and P. Márkus

2007). Only then did the learner's dictionary begin to make inroads into the Hungarian dictionary market as a new type of dictionary. The survey provided valuable insights that could be implemented in future dictionaries (e.g. the use of colour, grammar pages, and the layout of entries – in order to make dictionaries more innovative and user-friendly) and teaching aids, such as workbooks to develop dictionary skills with resources and suggestions (P. Márkus 2020b).

The widespread use of online dictionaries has provided new research opportunities in Hungary as well. Gaál (2016, 2017a) examined self-reports on the habits of dictionary use by university EFL students, translators, and language teachers using a combined method of questionnaires (n=294) and interviews (Gaál 2017b). Most respondents reported that they mainly used online dictionaries (45%), but there was also a relatively high proportion who reported that they used both print and online dictionaries (39%). Of the 294 respondents, less than 10% reported using mainly or exclusively a print dictionary. Regarding the type of dictionary, almost all respondents indicated that they used both bilingual and monolingual online dictionaries, and in terms of frequency, they mostly consulted general and synonym dictionaries. Since Gaál's research was concerned with online dictionaries, it is important to mention that participants used online dictionaries on desktops, notebooks, and smartphones alike.

Reder's (2016) research on collocation-related dictionary use involved observational and think-aloud protocol (TAP) research with teacher trainee students at a large Hungarian university (n=20). In the survey, a much higher proportion of participants reported using digital, mainly online, dictionaries than print ones, and there was a significant increase in the number of search operations, as well as a high frequency of simultaneous consultation of dictionaries when using digital tools. However, for more complex search tasks, simpler bilingual online dictionaries – available free of charge – did not always prove to be satisfactory. Based on the reflections, it may be said that when using digital dictionaries and search engines, language learners used techniques specific to digital tools. Moreover, learners' appropriate knowledge and skills contributed greatly to their effectiveness (Reder 2016).

Dringó-Horváth (2017) added a new perspective to research on dictionary use in Hungary, inasmuch as she tried to emphasise the importance of dictionary didactics (for details regarding specific tasks and good practice, see also Dringó-Horváth 2012, 2021). Her survey of undergraduates (n=80) indicated that online dictionaries were becoming more and more popular. Roughly half of the respondents reported that they used online dictionaries to look up the meaning or the correct spelling of a word, and only a quarter reported consulting print dictionaries for these purposes. The overwhelming role of online dictionaries seemed to be clear when searching for pronunciation, as about 60% of respondents reported that they used online dictionaries for information on pronunciation. The role of print dictionaries for this task had already been extremely low, which may be due to the difficulty of interpreting phonetic symbols. The use of online dictionaries to search for grammatical information was very marked (54%). The last part of the survey was particularly important as it concerned the acquisition of dictionary skills. The vast majority of respondents reported that they had acquired those skills in a self-taught way (Dringó-Horváth 2017). The results appear to confirm the research of Szöllösy (2004) and Márkus and Szöllösy (2006), who found that only a low proportion of respondents received training in dictionary use at school and university.

Researchers around the world are increasingly emphasising the importance of reference skills and dictionary use in education (Atkins and Varentola 1998, Lew and Galas 2008, Bae 2011, Lew 2011, Chen 2012, 2017, Gromann and Schnitzer 2016, Nurmukhamedov 2017, Dringó-Horváth 2017, P. Márkus 2020a). Dictionaries and other reference tools play an important role from primary school to university education and beyond, as they support lifelong learning and access to quality knowledge. Many changes have been made to the structure of dictionaries and the way they present information to make their use

as straightforward as possible. However, it is not enough for dictionaries to adapt to the reader: users also need to be trained in the use of dictionaries. It is important to integrate dictionary use into everyday life, as this would provide the highest motivation to complete dictionary use tasks, while preparing students for lifelong learning, which is becoming increasingly important in today's rapidly changing world.

However, based on national and international research, 'users are not able to use a dictionary adequately' (Nied Curcio 2022: 75), as they are not familiar with the classification and typology of dictionaries, and they have difficulties decoding the structured elements of dictionary entries (Nesi and Hail 2002, Szöllősy 2004, Márkus and Szöllősy 2006, Nied Curcio 2022); moreover, a lot of previous research reports that very little training in dictionary use takes place in schools (Márkus and Szöllősy 2006, Dringó-Horváth 2017, Nied Curcio 2022). The present paper reports on an investigation into dictionary use habits of English as a Foreign Language (EFL) and German as a Foreign Language (GFL) students, as well as their attitudes towards learning and teaching dictionary skills in the L2 classroom. In order to improve the current situation, it must be assessed by identifying the special needs of foreign language students, who also include many future teachers.

3. Methods

In line with the relevant literature and the research niche outlined in the previous sections, the following research questions (RQ) were formulated:

- RQ1 What trends can be identified in the dictionary use habits of EFL and GFL university graduates?
- RQ2 How far can dictionary use be identified in participants' previous education?
- RQ3 How do participants with language teaching experience integrate the teaching of dictionary skills and the use of dictionaries into their practice?

To find answers to the above research questions, the quantitative research paradigm was adopted. The adoption of quantitative methods was also motivated by the fact that such methods allow for a larger sample size, which is essential when attempting to identify trends.

3.1. Participants

The subjects participating in the present study were 197 graduates enrolled as foreign language majors at a Hungarian university between the academic years 2014/2015 and 2019/2020, out of whom 15% (n=29) were male and 85% (n=168) were female. The average age of the respondents was 34 (SD=10.76), with the youngest and oldest being 21 and 63 years old respectively. The high average age can be explained by the fact that some of the respondents were postgraduates (mainly teachers who returned to university for re-training); the survey was conducted in 2020. Based on the Training and Output Requirements for the courses, their language proficiency was C1 according to CEFR (the Common European Framework of Reference for Languages). At the university, all foreign language teacher trainees receive training in both language pedagogy and lexicography (with the same content and structure regardless of which language they are going to teach in the future), based on the Training and Output Requirements in Hungary. A large proportion of the participants, 64% (n=125) were EFL graduates, 25% (n=50) were GFL graduates, and 11% (n=22) were studying both languages at the time the questionnaire was administered. The highest qualification of participants is presented in Table 1. Due to the nature of the research, we had to rely on the self-reports of participants.

To reflect on the teaching of dictionary use (Q3), participants were also asked about their teaching experience. Although more than half of the participants had not studied in

Table 1: The highest qualification of participants – per language major (teacher training programmes are highlighted).

Questionnaire item	EFL (n)	GFL (n)
BA Degree	63	24
MA Degree	23	16
Teacher Training Programme	11	11
Postgraduate Degree in Education ¹	50	21
Total	147	72

teacher training courses (126 participants out of 197), a significant number ($n=149$; 75.6%) reported that they had at least one year of foreign language teaching experience, with an average of 11.61 years ($SD=9.49$). Most of them had private tutoring experience ($n=146$), mandatory teaching practice in teacher training ($n=95$) and language schools ($n=82$). However, the teaching experience in secondary schools ($n=79$) and primary schools ($n=74$) was not much lower among respondents.

3.2. The research tools

For data collection, a questionnaire was devised that built on the literature and the results of previous empirical research on dictionary use in the Hungarian context (see Márkus and Szöllösy 2006, Gaál 2016, Gaál 2017a, 2017b, Dringó-Horváth 2017). The advantage of this was that the surveys were based on international research (e.g. Gaál's surveys were based on the complex studies into dictionary use carried out by the Institute of German Language in Mannheim (see Müller-Spitzer et al. 2011, 2012, Müller-Spitzer and Kopenig 2014), the questionnaires had already been translated and adapted to the Hungarian context, and we could also build on previous experience in testing. The research tools consisted of 21 background questions and a total of 69 statements, 16 of which aimed to collect data on what kind of dictionaries participants used, 53 statements forming 10 scales investigated participants' dictionary use, habits, and attitudes towards teaching the effective use of dictionaries. The first four scales (1–4), investigated participants' frequency of dictionary use along with the different functions of dictionaries. Scales 5–6 aimed to collect data on the attitudes of participants towards dictionary use. Finally, scales 7–10 investigated to what extent participants teach methods of effective dictionary use. Participants' responses were measured on a five-point Likert scale (Agreement: 1=Strongly disagree, 5=Strongly agree; Frequency: 1=Never; 5=Regularly). Likert scales were chosen to be used because this way participants' responses could have a numerical value (from 1 to 5) which could be then used to quantify responses.

3.3. Collection and analysis of the data

The data collection process took place between May and July 2020; for data collection, Google Forms was used, the access details of which were sent out centrally using the university's academic database (see [Supplementary Online Material: Questionnaire](#)). The data collected were then coded, and all reversed items were coded in an inverted manner. Reversed items were items which are to be recoded so that all the items within a scale have the same directional relationship, i.e., they are all 'positive' (affirmative) items. This was used as a validation technique for the questionnaire and certain 'positive' items were instead rephrased in a 'negative' way, which can ensure that respondents pay attention when filling in the questionnaire. This is also used to ensure that after data collection and the recoding process, respondents' answers are consistent. Then the data were analysed in SPSS 27.0 using descriptive statistics. In each case, mean scores (M) and their standard deviation

(SD) were calculated. Mean scores were important to quantify the strength of intensity of participants' attitudes and habits; standard deviation was used to measure the amount of variation of a set of values. A low standard deviation signals that the values are closer to the mean score, while a high standard deviation indicates that participants' responses are spread out over a wider range. With regard to mean scores, the mean ($M=3.00$) was considered as the cut-off point, and the mean scores below it were considered as low, while the mean scores above were considered as high. Based on this, it may be concluded that for answers below the cut-off point ($M=3.00$), participants tended to rather disagree with the statements (agreement scales), or to use a particular dictionary function or type of dictionary less frequently, etc. (frequency scales), whereas for responses above the cut-off point ($M=3.00$), participants tended to rather agree with the statements (agreement scales) and to use a particular dictionary function or dictionary type, etc., more frequently (frequency scales). As the main purpose of the present study was to provide an overview of dictionary use habits at our university, the present paper makes an attempt to highlight general tendencies describing our context. The data obtained during the research were stored and used in accordance with the GDPR regulations, and no third parties other than the members of the research project were allowed access to them.

4. Results and discussion

4.1. Reliability of the questionnaire

The present research contained both single-item and multi-item scales. Single-item scales are used when a researcher wishes to measure a concrete construct, such as the frequency of use of a certain type of dictionary. A construct may be considered concrete if it is unambiguous to all respondents and they all understand the construct in the same way. In contrast, more complex constructs (e.g., willingness to pay for dictionaries), were measured through multi-item scales. Multi-item scales are a series of closely related items measuring the very same construct. As opposed to single-item scales, which are more vulnerable to measurement errors unless they are concrete as indicated above in the case of some of our scales, multi-item scales are less likely to be vulnerable to such errors when measuring less concrete scales (e.g., willingness to pay for dictionaries). When it comes to multi-scale items, however, it is important to check the internal consistency of such scales, which may be achieved, as [Dörnyei and Taguchi \(2010\)](#) suggest, by calculating the Cronbach's alpha coefficient for each multi-item scale ([Table 2](#)).

Based on the Cronbach's alpha coefficients presented in [Table 2](#), it may be concluded that the reliability of most scales is ensured as their coefficients exceed the .60 threshold indicated in the literature ([Dörnyei and Taguchi 2010](#)). As for scale 2 and 7, the coefficients do not reach the minimum threshold; they were nonetheless included in this investigation as they are believed to be important in describing participants' dictionary use habits as well as their attitudes towards teaching dictionary use skills. This may be considered one of the limitations of the study and is addressed at the end of the present paper.

4.2. Participants' dictionaries and dictionary use habits

The first set of questions aimed to collect data on what type of dictionaries participants own and which of them are used on a regular basis. We also wanted to know on which electronic device participants use their dictionaries ([Table 3–5](#)).

The figures in [Table 3](#) show that, in line with the findings of previous research ([Gromann and Schnitzer 2016](#)), a large proportion (95.4%) of the participants claim to own a print dictionary. Half of the participants (52.8%) also have an offline (downloadable) dictionary application on one of their smart devices and only 26.9% have the same type on their personal computer. Only 9% subscribe to an online dictionary, which is in agreement with the reluctance to pay that is shown in previous research in the field ([Gaál 2016](#), [Reder 2016](#),

Table 2: The Cronbach's alpha coefficients of the scales used in the study.

	Scale	Number of items	Cronbach's alpha
USAGE	1. Use of unique features relating to digital dictionaries	6	.647
	2. Use of search methods relating to digital dictionaries	5	.590
	3. Willingness to pay	4	.643
	4. Conscious use of the prefatory material in dictionaries	4	.862
ATTITUDES	5. Attitudes towards teaching dictionary use	4	.741
	6. Presence or absence of dictionary use knowledge and skills	7	.843
TEACHING	7. Practising various ways of using dictionaries in their lessons	5	.554
	8. Practising conscious use of dictionaries during lessons	7	.709
	9. Teaching dictionary use in lessons	7	.833
	10. Bolstering the teaching of dictionary use in participants' own teaching practice	4	.706

Table 3: Types of dictionaries owned by respondents.

Questionnaire item	%	n
Print dictionary	95.4%	188
Offline (downloadable) dictionary application on a smart device	52.8%	104
Offline (downloadable) digital dictionary on a personal computer	26.9%	53
Translator-device subscription	9.1%	18
Online dictionary subscription	8.6%	17

Dringó-Horváth 2017). It is important to note here that the fact that participants own a print dictionary does not actually mean that it is in use (see Table 5, Dringó-Horváth 2017) or that what they actually use does not always correspond to what they would prefer to use (Kosem et al. 2018). While paper dictionaries and subscriptions are paid services, most of the offline downloadable mobile applications are free of charge (see Table 6 for details about willingness to pay). As can be seen in Table 3, most respondents still have paper dictionaries on their shelves; however, it seems to be the case that nowadays foreign language learners rarely buy dictionaries (cf. Nied Curcio 2022). The price of paper dictionaries is relatively high but they can be used by the whole family, which made them a valuable investment for the family in the past. In many cases, paper dictionaries are inherited from parents or grandparents, which may also explain why a large proportion (95.4%) of the participants still possess a print dictionary in *twenty-first-century* Hungary. Offline applications on smart devices are mostly free and fast and also the easiest to access as they are always close at hand.

Table 4 summarises the frequency of electronic device use. In line with the results of previous research, desktop computers, laptops and smartphones are the most used devices on which dictionaries are accessed (Gaal 2016, Dringó-Horváth 2017, Kosem et al. 2018).

Data on the use of different dictionary types presented in Table 5 show that although almost all participants claim to have a print dictionary, its use is ranked only third, while online dictionaries ($M=4.63$; $SD=.78$) and search engines ($M=3.82$; $SD=1.20$) are much more popular. Table 3 suggests that more than half of the participants can access offline (downloadable) dictionary applications (see Table 7, 8 for details of the use of downloadable digital dictionaries), whereas the data also show that these are less popular

Table 5: Use of different dictionary types.

Questionnaire item	Mean	Standard deviation
Online dictionaries	4.63	.78
Search engines (e.g. Google)	3.82	1.20
Print dictionaries	2.68	1.35
Translator application/ program (e.g. Google Translate)	2.53	1.53
Offline (downloadable) dictionary application on a smart device	2.44	1.50
Offline (downloadable) digital dictionary on a personal computer	1.76	1.25

Table 6: Participants' willingness to buy dictionaries.

Questionnaire item	Mean	Standard deviation
I am willing to subscribe to an online dictionary if I feel I am getting a more reliable dictionary.	2.87	1.37
Before purchasing a dictionary, I ask a friend (e.g. a language teacher) for their view on which dictionary to buy.	2.85	1.50
I am happy to buy a dictionary either in printed or electronic form.	2.84	1.32
I think that money spent on dictionaries is money well spent*	1.93	1.10

* Reversed item: in the original questionnaire, the exact opposite of this item was used and was phrased in a negative way

Table 4: Frequency of electronic device use related to electronic dictionaries.

Questionnaire item	Mean	Standard Deviation
Desktop computer or laptop	4.72	.68
Smartphone	4.13	1.14
Tablet	1.68	1.29
E-Book-reader	1.30	.83
Smartwatch	1.04	.34

($M = 2.44$; $SD = 1.50$) than online dictionaries, which – in line with the results of previous research (Müller-Spitzer et al. 2012, Nied Curcio 2014, 2015, Lew 2015, Töpel 2015, Gaál 2016, Reder 2016, Dringó-Horváth 2017) – seem to be the most frequently used dictionary-type. This is probably due to the widespread, reliable, and stable internet access that enables online dictionaries to be accessed quickly and consistently. In addition, much more information can be extracted from online dictionaries than from their downloadable counterparts, and they are frequently updated, which means that in the long run they are more accurate than downloadable electronic dictionaries. The frequent use of search engines (e.g. Google) as a dictionary is also not surprising, as we can also see from previous studies that if one searches for a word in an online dictionary and one fails to find it, users often turn to a search engine (cf. Frankenberg-Garcia 2005, Gromann and Schnitzer 2016, Lew 2015, Kosem et al. 2018). Reassuring in this respect, however, are the results of a study (Müller-Spitzer et al. 2018) which investigated what students actually do when they correct language errors. The research, based on observation (screen

Table 7: Frequency of the use of different digital dictionaries developed in Hungary.

Dictionary	Type of dictionary	Mean	Standard deviation
SZTAKI	online dictionary	3.07	1.40
DictZone	online and downloadable dictionary	2.94	1.63
Akadémiai Publishers	online and downloadable dictionary	2.07	1.46
Grimm-dictionaries	online and downloadable dictionary	1.63	1.23
MorphoLogic	online and downloadable dictionary	1.29	0.76

Table 8: Frequency of the use of selected international dictionaries.

Dictionary	Type of dictionary	Mean	Standard deviation
English			
Cambridge	online and downloadable dictionary	3.64	1.44
Oxford	online and downloadable dictionary	3.62	1.40
Urban Dictionary	online and downloadable dictionary	2.80	1.34
Macmillan	online and downloadable dictionary	2.41	1.50
The Free Dictionary	online and downloadable dictionary	2.31	1.20
Longman	online and downloadable dictionary	2.16	1.46
German			
Duden	online and downloadable dictionary	4.24	1.02
Langenscheidt	online and downloadable dictionary	2.26	1.45
Pons	online and downloadable dictionary	1.68	1.07

recording combined with a thinking-aloud task) rather than self-reporting, showed that participants used dictionaries more than search engines or translation applications to solve specific language problems.

The following statements were included to gain some insight into participants' opinions of and attitudes towards the use of unique features relating to digital dictionaries (Table 9).

Two special functions appear to be more frequently used than others: participants seem to take advantage of content related to other dictionaries or additional texts ($M=3.53$; $SD=1.45$) and of multimedia content ($M=3.25$; $SD=1.36$). It is hardly surprising that the use of these specific functions appear to be frequent, as they are innovative features that can greatly support language learning and effective dictionary use (e.g. pictures/additional examples help clarify meaning, disambiguate between senses and elucidate verbal definitions; spoken audio representations of headwords help with the interpretation of phonetic symbols) (Svensén 2009, Frankenberg-Garcia 2015, Dziemianko 2022). However, previous research revealed that the unique characteristics of online dictionaries (e.g. multimedia content, flexibility) are not rated and ranked as of great importance (Müller-Spitzer and Kopleinig 2014, Gaál 2016, Kosem et al. 2018), and reliability, up-to-date content and navigability are more important factors when choosing an online dictionary (Müller-Spitzer and Kopleinig 2014, Lew 2015, Gaál 2016). Android and iOS applications typically update in the background, bringing users the latest features and bug fixes directly to their phone, yet from time to time, users may need to force an application to update manually. It may be useful to do this if an application is out of date, or not working properly. Manual updates are rarely necessary (unless users wish to save

Table 9: Use of unique features relating to digital dictionaries.

Questionnaire item	Mean	Standard deviation
In digital dictionaries, I use the information that offers content related to other dictionaries or additional texts (additional example sentences from corpora).	3.53	1.45
I use the multimedia elements of the digital dictionary (pictures, videos, audio for pronunciation).	3.25	1.36
I regularly update my digital dictionary as offered by the publisher (technical and/ or content updates).	1.84	1.27
With the appropriate settings, I allow the publisher to monitor my user habits to update and improve the online dictionary.	1.67	1.16
When using digital dictionaries, I supplement the information contained in them (e.g. adding my own words, supplementing existing articles).	1.44	.99
I try to customise the online dictionaries I use (user settings: e.g. colours, font size, hide/ show information function).	1.30	.75

mobile data usage and battery power by turning off automatic updates), and this may be the reason why the mean for this statement is lower. Regular updates are only of importance when using downloaded dictionaries; in the case of online dictionaries this is done automatically by the publisher – but even in this case it may be important for the user to monitor the new features and, if necessary, to modify the settings and usage habits (e.g. changes to the user interface, use of new functions). It should also be emphasised that monitoring carried out by the publisher may vary greatly in both domestic and international dictionaries, as may the possibility of personalisation. The rating is better when users know what is meant by the innovative features (Müller-Spitzer and Kopleinig 2014), so it may be important to see to what extent participants are familiar with new features of electronic dictionaries: this will require further qualitative measurements. A characteristic feature of online dictionaries is that they can be personalised (e.g. the Cambridge Dictionary +Plus allows users to create their own word lists), yet this does not seem to be widely used by participants.

The tables below show the dictionaries that participants report using (Table 7, 8).

The most preferred online dictionaries (especially the ones from larger international publishers) that participants claim to use mostly have the features listed above (most commonly: multimedia elements, additional content using corpora, personalisation). As for the different search techniques – next section –, the more specific search modes (such as pop-up search) are provided only by downloadable, paid applications (e.g. MorphoLogic), so it is not surprising that this type of search is reported to be less well-known and less frequently used. Participants' willingness to use the various search features offered by digital dictionaries was also investigated (Table 10).

Table 10 gives an overview of the responses, which suggests that participants use the technique of searching for several words simultaneously when searching for fixed expressions ($M=3.82$; $SD=1.25$) (cf. Laufer 2011); all the other search methods have a mean score of 2.37 or less. Participants do not seem to take advantage of these search techniques, which seems to confirm the findings of previous Hungarian research (Dringó-Horváth 2017). In addition, several other studies show a similar lack of knowledge of digital dictionaries (Nied Curcio 2015). Participants may not be aware of these new opportunities and their potential benefits, as teaching how to use digital dictionaries lags behind the teaching of the use of traditional dictionaries (see Table 11).

The willingness to pay is related to the opinions people have about dictionaries in general. It was, therefore, measured in two ways. First, participants were asked if they

Table 10: Use of search methods relating to digital dictionaries.

Questionnaire item	Mean	Standard deviation
When searching for idioms and fixed expressions in digital dictionaries, I use the technique of searching for several words simultaneously.	3.82	1.25
I make use of the fact that digital dictionaries are able to save previous search results.	2.37	1.40
When using digital dictionaries, I also use special search characters if necessary (such as *, OR, +, -).	1.83	1.27
I use pop-up dictionaries searchable by selecting and seeing the results in a speech bubble above the selected item.	1.63	1.15
When using digital dictionaries, I use voice search whenever possible.	1.32	.72

Table 11: Presence or absence of dictionary use (knowledge and skills).

Questionnaire item	Mean	Standard deviation
The different types of dictionaries and the information they contain were discussed in class.	3.84	1.26
The structure and coding systems in dictionary entries (e.g. stress marks, pronunciation symbols, grammatical codes, abbreviations) were taught in language lessons.	3.22	1.42
Language lessons covered the various search methods and techniques (e.g. where to find expressions or past tense forms of verbs).	3.22	1.42
The structure of the entire dictionary and its organisational principles were covered in class.	3.15	1.51
The alphabetical order of entries was practised in class in order to find a word/expression quickly in the dictionary.	3.07	1.43
In class, we practised a critical approach to the proper interpretation and selection of the information we found.	2.68	1.39
Additional functions of digital dictionaries (e.g. digital search methods, extensions, personalisation and updating options) were covered in class.	2.28	1.41

had any digital dictionary subscriptions. Based on the responses, in line with the results of previous research in Hungary, participants' willingness to pay for dictionaries seems to be very low (Gaál 2016, Dringó-Horváth 2017). 13% (n=26) of the participants paid for the digital dictionary access provided by a publisher, while only 2% (n=3) spent money on online web access and only one respondent subscribed to a smart device application (all the well-known publishers in Hungary provide paid access: Akadémiai Publishers, Grimm-dictionaries, MorphoLogic). Second, respondents' habits of buying dictionaries and their willingness to pay in general were also investigated (Table 6).

As can be seen in Table 6, respondents appear to be reluctant to spend money on dictionaries (the mean scores for the items are below 3.00). The reason for this may be that a lot of dictionary software and online dictionaries (by renowned publishers) are available on the Internet free of charge (see Table 8). As can also be seen in Table 5, participants most frequently use such online dictionaries, which not only offer a quick and convenient way to obtain information, but also actively engage dictionary users (as in vocabulary quizzes, games, videos, forums, etc.) (Rundell 2015, Dziemianko 2022).

Table 12: Conscious use of the prefatory material in dictionaries.

Questionnaire item	Mean	Standard deviation
I tend to look through the list of abbreviations in dictionaries.	3.16	1.32
In dictionaries, I read the page that gives a sample entry.	2.69	1.45
I usually review the guide to dictionary use in dictionaries.	2.40	1.31
In dictionaries, I always read the introduction and the preface.	2.14	1.28

The following statements were included to collect self-reported data about how often participants read the introduction to dictionaries, or any additional information related to their correct use (Table 12).

The results of the self-reported data suggest that participants do not use, or use aids related to dictionaries only superficially. The mean score of the responses to the list of abbreviations ($M=3.16$) is slightly higher than the mean scores of the other statements, which may suggest that its use, unlike the other parts of the dictionary, is essential for the interpretation of certain dictionary information. At the university, foreign language teacher trainees receive training in lexicography, and there is a compulsory course (Study Skills) for first-year students, where they receive some instruction on how to use a dictionary, yet we did not receive positive responses to these statements. It seems that they learn individual skills and items of knowledge, but they have difficulty in applying the same skills and knowledge in everyday situations. Moreover, it should not be forgotten that learning to use a dictionary effectively takes a lot of practice. Regular and frequent use of dictionaries is therefore important and necessary in order to master dictionary skills. Previous surveys and observations of dictionary use have also shown that users rarely read the usage guides to dictionaries and in some cases fail to read the whole entry when trying to find what they are looking for, which may hinder effectiveness (cf. Atkins and Varantola 1998, Svensén 2009, Nied Curcio 2022). Lexicographers and publishers reacted almost immediately to the results of the surveys: the descriptions illustrating the use became shorter and were supplemented with several illustrative examples in a more user-friendly manner, yet none of this seems to have changed the attitude of dictionary users.

4.3. Participants' attitudes and previous experience of learning to use a dictionary

This scale aimed to investigate participants' attitudes towards teaching dictionary use (Table 13).

All the statements in Table 13 focused on the teaching of dictionary use. A high proportion of participants report that they think it is important to teach dictionary use in the foreign language classroom. The explanation for this, as mentioned earlier, may be that students learn about lexicography and receive training in dictionary use at university, so they understand its benefits. However, they should have learnt how to use a dictionary earlier – in primary and secondary school, in which case these skills could have further been reinforced during study at tertiary level. Dictionary use should be integrated into everyday life as a key element of autonomous learning. According to previous research in Hungary, this seems to be problematic, as there is very little guidance for teachers (in the curricula of primary and secondary schools) on how this could be done effectively, and the marginal role of dictionary use can often be explained by a shortage of time and teaching aids (P. Márkus 2018, 2019, 2020b).

Finally, participants were asked about what kind of knowledge and skills related to dictionary use they had acquired during their previous formal education (Table 11).

Table 13: Attitudes towards teaching dictionary use.

Questionnaire item	Mean	Standard deviation
I think that dictionary use should be learnt during language lessons in schools.*	4.58	.77
It is important to learn how to use dictionaries correctly.	4.43	.83
Dictionary use should be taught: not everyone knows how to use one.*	4.42	.86
Teaching proper dictionary use is a task for language classes.	4.11	1.00

* Reversed item: in the original questionnaire, the exact opposite of this item was used and was phrased in a negative way

Table 14: The presence of dictionary use in participants' own educational practice.

Questionnaire item	Mean	Standard deviation
Online dictionaries (available on a website) are used on a device (mobile phone, laptop, etc.) in my lessons.	3.97	1.13
Search engines are used as dictionaries in my lessons (e.g. Google).	3.44	1.41
In my classes, we use a print dictionary.	2.90	1.21
Offline (downloadable) digital dictionaries are used on smartphones/ mobile devices in my classes.	2.86	1.45
Offline (downloadable) digital dictionaries are used on computers/ laptops in my classes.	2.37	1.43
Machine translators (e.g. Google Translate) are used as dictionaries in my classes.	1.87	1.28

As the self-reported data indicate, the basics of dictionary use are usually taught in foreign language classes (for example, teachers explain the structure of entries, the alphabetical order, the coding systems or they talk about different types of dictionaries and search methods); however, a more thorough explanation of dictionary use is not included in these lessons and activities. It is particularly disappointing that the introduction to digital dictionaries, which are gaining more and more attention today and are also the type most frequently used by respondents (see [Table 5](#)), seems to have only a marginal role (cf. [Chen 2012](#), [Nurmukhamedov 2017](#)).

4.4. Experience in teaching dictionary use

This section gives an overview of how participants with language teaching experience integrate the teaching of dictionary skills and the use of dictionaries into their practice.

The next scale measured the extent to which dictionary use appears in participants' own educational practice ([Table 14](#)).

It is thought-provoking that participants claim to use both online dictionaries and search engines in their teaching practice more often than traditional print dictionaries. Apparently, offline dictionary use on a laptop or computer is not as common as offline dictionary use on a smart device. This may be due to the fact that desktop computers and laptops are only

Table 15: Practising conscious use of dictionaries during class.

Questionnaire item	Mean	Standard deviation
Dictionaries are used to look up the meaning of words and expressions in my class.	3.90	1.04
Dictionaries are used to compose texts and write letters in my class.	3.81	1.13
Dictionaries are used to widen students' vocabulary in my class.	3.52	1.18
Dictionaries are used to check the spelling of words in my class.	3.32	1.30
Dictionaries are used for comprehension exercises in my class.	3.16	1.19
Dictionaries are also used for looking up grammatical information in my class.	2.98	1.41
Dictionaries are used for looking up the correct pronunciation of words in my class.	2.90	1.38

available in limited numbers in secondary schools, whereas almost all students have their own smartphones (cf. Gaál 2016, Kosem et al. 2018).

Another scale investigated to what extent participants teach conscious dictionary use (Table 15).

Participants with teaching practice report that they use dictionaries mainly for text-producing activities and searching for meanings. Based on the self-reported data, among the rarest activities when using a dictionary is the retrieval of information related to grammar and pronunciation (see De Schryver et al. 2006, Koplein et al. 2014 about the most frequently looked up information in online dictionaries). Although all this allows for effective preparation for exam situations (where candidates may use print dictionaries for the writing task), it does not sufficiently support the development of deeper dictionary use competencies and thus lifelong learning or the adequate use of reference tools (e.g. low mean scores related to grammatical information and comprehension). It should be said here that it is common practice in various official examinations for language certificates that only the use of print dictionaries is allowed (cf. Nied Curcio 2022).

Participants were also asked about how they teach dictionary use in their own teaching practice (Table 16).

Based on the self-reports, only three of the seven statements have mean score of 3.00 or higher, which seems to support the findings of previous research that dictionary didactics and complex dictionary use training are not necessarily an essential part of foreign language classes (cf. Hartmann 1999, Lew 2013, Gaál 2016, Dringó-Horváth 2017). A variety of dictionaries ($M=3.81$; $SD=1.22$), search techniques ($M=3.50$; $SD=1.32$) and correct interpretation ($M=3.41$; $SD=1.25$) are claimed to be the most common in teaching dictionary use. The mean score of the responses to the last statement in Table 16 seems to be surprisingly low ($M=1.67$; $SD=.90$), indicating that the various functions of digital dictionaries are hardly addressed by foreign language teachers at all. It seems problematic mainly because of the results of classroom dictionary use, which suggests that their use is more widespread than the use of print dictionaries (see Table 14) – this also applies to dictionary use outside of school (cf. Table 5 and Gaál 2016, Dringó-Horváth 2017). The problem may be based on the misconception that the use of digital dictionaries is allegedly easy. This intuition seems to be supported by the fact that participants are not aware of the advantages, additional functions and search techniques provided by this type of dictionary (for a list of

Table 16: Teaching dictionary use in lessons.

Questionnaire item	Mean	Standard deviation
I find it important that my students get to know the different types of dictionaries in my class.	3.81	1.22
It is a part of my class teaching that my students should acquire the skills of dictionary search and related search techniques.	3.50	1.32
It is a goal of my class that students enhance their critical attitude to the retrieval of the correct interpretation	3.41	1.25
The structure and coding systems of dictionary entries (e.g. stress marks, grammatical codes, abbreviations, pronunciation marks) are covered in my class.	2.72	1.34
Alphabetical order is practised in relation to dictionary use in my class.	2.70	1.41
The structure of the entire dictionary (including the list of abbreviations and appendices, for example), as well as its structuring principles and their use is covered in my class.	2.64	1.38
Additional functions of digital dictionaries (e.g. digital search methods, extensions, personalisation and updating options) are covered in my class.	1.67	.90

new features and evaluation criteria for electronic dictionaries, see [Kemmer 2010](#), [Dringó-Horváth 2012, 2021](#)). The low mean score may also indicate the emphasis on teaching traditional print dictionary use since – as mentioned earlier – in most of the examinations for language certificates only the use of a print dictionary is allowed. Accordingly, teachers rightly feel that when preparing students for exams, it is the use of a print dictionary that they should teach.

Regarding the teaching of dictionaries in foreign language classes, it was hypothesised that there was less emphasis on direct dictionary use (tasks focusing on the dictionary itself) than on indirect dictionary use (tasks requiring a dictionary but not focusing exclusively on the dictionary – typically dictionary use related to skills and sub-skills development) (cf. [Wolfer et al. 2016](#)). Based on the mean score calculated from the values in [Tables 14, 15](#), our hypothesis seems to be confirmed, as activities related to indirect dictionary use occur to a relatively greater extent ($M=3.38$) than tasks related to direct dictionary use ($M=2.92$). However, as [Ranalli \(2013\)](#) points out, learners' training in dictionary use results in greater linguistic awareness, therefore teachers' own awareness of the importance of teaching dictionary use should be raised ([Laufer 2011, Chen 2012](#)).

Through the final scale, participants' perceptions of how teaching dictionary use could be strengthened were investigated ([Table 17](#)).

Based on the relatively high mean score ($M=3.63$; $SD=1.26$), we may conclude that participants do not necessarily seem to lack motivation about teaching dictionary use. It may also be concluded that participants do not necessarily think that they need training in dictionary use ($M=2.95$; $SD=1.26$), although data from the present study (see [Tables 11, 14, 15](#)) show that explicit dictionary use-related explanations appear only relatively rarely in foreign language classes. The responses suggest that the teaching of the use of dictionaries would be best facilitated by educational aids related to the topic and a centralised educational policy supporting the better presentation of the topic (cf. [Bae 2015, Carstens 1995, Lew and De Schryver 2014, P. Márkus 2020a](#)).

Table 17: Bolstering the teaching of dictionary use in participants' own teaching practice.

Questionnaire item	Mean	Standard deviation
I feel motivated to teach dictionary use.*	3.63	1.26
I feel that I could improve my teaching of dictionary use if there were appropriate teaching aids and educational materials available (textbooks or workbooks).	3.52	1.32
A more robust presence of dictionary use in the documents regulating education (curricula and course plans) is needed for covering it during class.	3.46	1.22
I need training and professional development in teaching dictionary use.	2.95	1.26

* Reversed item: in the original questionnaire, the exact opposite of this item was used and was phrased in a negative way

5. Conclusions, limitations of the study, and further research

5.1 Most important results and conclusions

Concerning the trends in (self-reported) dictionary use habits (RQ1), it may be concluded that foreign language graduates own various types of dictionaries, but they mainly use electronic ones. Although participants very frequently use free, online dictionaries, they seem to take only marginal advantage of the extra benefits provided by digital dictionaries. Participants' responses also suggest that they rarely buy print dictionaries and their willingness to pay for dictionaries in general is extremely low. Furthermore, self-reported data also suggest that participants rarely read the introductory notes (preface, guide to dictionary use) and might just glance at the list of abbreviations.

As for dictionary use in participants' prior studies (RQ2), responses indicate that the basics of dictionary use are taught in foreign language classes (e.g. the various kinds of dictionaries and the structure of entries), but there is a lack of a more profound explanation of dictionary use, such as the way information is selected and the special features of electronic dictionaries. It is gratifying to see that respondents feel that it is important to teach dictionary use in class.

Reflections on dictionary use, and on the teaching of dictionary skills in participants' foreign language teaching practice (for participants with at least a year of teaching experience) (RQ3) suggest that online dictionaries and search engines are the most frequently used dictionary types. Text-producing activities and finding the meaning of unknown words appear to be the main purposes of dictionary use, while the rarest activities include retrieving information related to grammar and pronunciation. As for the teaching of dictionary use, it may be said that dictionary didactics is not necessarily an essential part of foreign language teacher training, and if there is, there is less emphasis on direct than on indirect dictionary use. Unfortunately, the specific features of electronic dictionaries are mostly excluded from this process. In addition, participants claim that the teaching of dictionary use is facilitated when the content appears in the curriculum and useful resources and training become available.

This summary of the research partly confirms the trends revealed in previous studies on dictionary use (cf. [Nied Curcio 2022](#)); however, the following additional results are worth highlighting:

- the study involves reflections on teaching dictionary use, a rare and under-researched area, and
- it pays particular attention to digital dictionaries from the point of view of dictionary use and dictionary didactics, contributing to the appropriate integration of this increasingly important type of dictionary into the learning and teaching processes.

The above-mentioned issues clearly outline some important steps to be taken to support proper and effective dictionary use and dictionary didactics. Based on the findings, we plan to design a core ‘dictionary skills’ module (with teaching aids and handbooks), which could be incorporated into a variety of university courses. The module handbook will be designed to give guidance on how to integrate (the teaching of) dictionary use into traditional classroom teaching, thus making the teaching and learning process more effective; improve the digital competencies of students; as well as contribute to the reduction of inequalities among students from different socio-economic backgrounds.

One of the most important findings of this study is that it highlights the gaps in the use and the teaching of the special features of digital dictionaries. Dictionary use and language learning with digital dictionaries – despite many similarities – are characterised by significant differences from print dictionaries (for textual differences and terminological difficulties, see Müller-Spitzer 2018; details of new evaluation criteria and the differences in usage and successful skills can be found in Kemmer 2010, Dringó-Horváth 2012, 2021, Müller-Spitzer, Koplénig and Wolferet 2018). Therefore new dictionary didactics is advocated that addresses media-specific aspects: with the help of specific exercises teachers could demonstrate in the classroom how certain features of digital dictionaries can enhance dictionary use. In doing so, special emphasis should be placed on some specific features and search strategies that can have a positive impact on the learning process (for specific instructions and concrete task suggestions related to this, see Dringó-Horváth 2021).

In order to increase the willingness to pay for dictionaries, foreign language teachers and learners need to be aware of the differences between free and paid dictionaries – especially when it comes to electronic dictionaries and connected devices. Therefore this topic should be included in the teaching of dictionary use. In addition, it is worth becoming more aware of the role of teaching aids in the process of teaching dictionary use – for users, lexicographers, and publishers of dictionaries alike.

Research on dictionary use remains a very important prerequisite for the high quality of dictionaries and fruitful dictionary use. It can contribute to the improvement of teaching and the learning of dictionary skills. Involving publishers in the research process would also be advisable, as this could improve the quality of dictionaries (cf. Laufer 2011, Frankenberg-Garcia 2015, Granger and Lefer 2016, Lew 2016) and help in the publication of effective resources and teaching materials. As for teaching materials, the findings indicate that it would be worth placing special emphasis on the differences between direct and indirect dictionary use and the importance of using both types.

5.2 Limitations

The small sample size used in this research is a limitation regarding the interpretation and generalisability of the results. Since our sample consists of students enrolled as foreign language majors at a Hungarian university, further studies are needed to test the tools in other study areas (language majors other than EFL and GFL or even non-language majors) and in other institutions as well, to gather valid evidence from a diverse population. Moreover, as the reliability coefficient of some of the scales falls slightly below the minimum threshold, these scales could be further refined for later research.

A further limitation of this study stems from the nature of self-report questionnaires and the fact that we used only one data source, which can distort results (Common Method Bias) (George and Pandey 2017). Currently, there is no other source of data available to answer our research questions and cross-check our results, but we can outline some future research-steps pertaining to behavioural evidence rather than general perceptions. The possible bias regarding distorted results is further minimised by the anonymity of the questionnaire. Based on these elements the use of a questionnaire seems to be justified, but further studies are recommended with careful triangulation of research methods and data sources (e.g. combining data from questionnaire surveys of trainee teachers with data from related

classroom observations or textbook analysis – see further steps below) to overcome these limitations. Twelve interviews have been completed since the research and data processing, which may also be used to refine the data in the future.

5.3 Further research

Based on the concise presentation of studies by [Nied Curcio \(2022\)](#), spanning some 40 years (1979–2021), the survey, and especially the questionnaire, is still one of the most frequently used methods. However, in the case of self-report surveys we must also take into account that the responses are not always realistic and reliable (e.g. [Kosem et al. 2018](#) on actually used vs. preferred dictionaries). If we want more reliable data, it is worth combining questionnaire research with other methods, such as direct observation, think-aloud protocols, and video recording, as well as interviews, which can tell us a great deal about real-life dictionary use strategies (for an interesting new methodological setting – screen recording with a thinking-aloud task – see [Müller-Spitzer et al. 2018](#)). The rapid development of technology has led to new research possibilities, such as monitoring computer use by analysing log files behind the software, or using eye movement analysis software, or even allowing publishers to collect data when using a product (e.g. by forwarding unsuccessful searches to the publisher). We should also mention communication via social media, including question and answer topic-forums (some examples: Yahoo! Answers; Google Questions and Answers; Google Frequently Asked Questions). By reading and researching these, we can find out more about the real problems of dictionary use in practice (and not those artificially generated by researchers), which may be the latest techniques in dictionary research (cf. [Bae and Nesi 2014](#)).

According to the statistical results of the broad-ranging literature review by Nied Curcio, there is a trend in this direction: “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” ([Nied Curcio 2022](#): 74). In line with the latest progress, while carrying on with the longitudinal survey-based collection of self-reported data on dictionary use, we also plan to employ qualitative methods in our further research. We will focus mainly on dictionary didactics by using interviews and observations in the classroom among teacher trainees as well as analysing English Language Teaching (ELT) and German Language Teaching (GLT) coursebook packages available for use in Hungary. On the basis of the data collected so far, we will take a closer look at the following questions:

- Where, when and how (goals, contents, materials and specific tasks) does learning and teaching of dictionary use take place in the study of EFL and GFL graduates – especially when it comes to electronic dictionaries?
- To what extent do ELT and GLT coursebook packages available in Hungary (including publisher’s support and communication on related websites) support dictionary didactics?
- How can dictionary didactics be better facilitated, what specific materials, training or curricula are needed?
- What are the key elements of effective dictionary didactics, and to what extent are these influenced by the type of the dictionary (print vs. electronic)?

In doing so, we hope to contribute to the research on the effects of dictionary didactics as one of the less frequently investigated areas in the field.

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Notes

- 1 In Hungary it is the so-called Short-Cycle Teacher Training Programme, lasting 2 or 4 semesters..

References

A. Dictionaries

Mozsárné Magay, E. and P. Márkus, K. (eds.). 2007. Angol–magyar, magyar–angol tanulószótár. [*English–Hungarian, Hungarian–English Learner’s Dictionary*.] Grimm Publishers: Szeged.

B. Other literature

- Atkins, B. T. S. and K. Varantola. 1998. ‘Language Learners Using Dictionaries: The Final Report on the EURALEX/AILA Research Project on Dictionary Use’ In Cam, B. T. S. (ed.), *Using dictionaries. Studies of dictionary use by language learners and translators*. Tübingen: Niemeyer, 21–81. doi:[10.1515/9783110929997.21](https://doi.org/10.1515/9783110929997.21)
- Atkins, B. T. S. and M. Rundell. 2008. *The Oxford Guide to Practical Lexicography*. New York: Oxford University Press.
- Bae, S. 2011. ‘Teacher-training in Dictionary Use: Voices from Korean Teachers of English’ In Akasu, K. and S. Uchida (eds), *Lexicography: Theoretical and practical perspectives. Papers submitted to the seventh ASIALEX Biennial International Conference, Kyoto, Japan, August 22-24, 2011*. Kyoto: The Asian Association for Lexicography, 46–55.
- Bae, S. and H. Nesi. 2014. ‘Korean and English ‘dictionary’ questions: what does the public want to know?’ *Lexicography* 1: 53–71, doi:[10.1007/s40607-014-0002-3](https://doi.org/10.1007/s40607-014-0002-3)
- Bae, S. 2015. A course in dictionary use for Korean EFL teachers. *Lexicography* 2: 45–69. doi:[10.1007/s40607-015-0017-4](https://doi.org/10.1007/s40607-015-0017-4)
- Barnhart, C. 1962. ‘Problems in Editing Commercial Monolingual Dictionaries’ In Householder, F. W. and S. Saporta (eds.), *Problems in Lexicography*. Bloomington: Indiana Research Centre for Language and Semiotic Studies. Reprinted In Hartmann, R. R. K. (ed), 2003. *Lexicography: Critical Concepts*. Volume 1: Dictionaries, compilers, critics, and users. London: Routledge, 285–301.
- Battenburg, J. 1991. *English Monolingual Learners’ Dictionaries: A user-oriented study*. Tübingen: Niemeyer Verlag. doi:[10.1515/9783111340623](https://doi.org/10.1515/9783111340623)
- Bishop, G. 2000. ‘Developing learner strategies in the use of dictionaries as a productive language learning tool.’ *Language Learning Journal* 22: 58–62.
- Braasch, A. 2012. ‘Magay Tamás az európai lexikográfusok között’ [Tamás Magay among European Lexicographers] In Pintér, T., D. Pődör and K. P. Márkus (eds), *Szavak pásztora: Írások Magay Tamás tiszteletére [Pastor of Words. A Festschrift in Honour of Tamás Magay]*. Szeged: Grimm Publishers, 334–344.
- Campoy Cubillo, M. C. 2002. ‘Dictionary use and dictionary needs of ESP students: An experimental approach.’ *International Journal of Lexicography* 15.3: 206–228.
- Carstens, A. 1995. ‘Language Teaching and Dictionary Use: An Overview.’ *Lexicos* 5: 105–116.
- Chen, Y. 2010. ‘Dictionary use and EFL learning. A contrastive study of pocket electronic dictionaries and paper dictionaries.’ *International Journal of Lexicography* 23.3: 275–306.
- Chen, Y. 2012. ‘Dictionary Use and Vocabulary Learning in the Context of Reading.’ *International Journal of Lexicography* 25.2: 216–247. doi:[10.1093/ij/lecr031](https://doi.org/10.1093/ij/lecr031)
- Chen, Y. 2017. ‘Dictionary Use for Collocation Production and Retention: A CALL-based Study.’ *International Journal of Lexicography* 30.2: 225–251.
- Chi, M. L. A. 1998. ‘Teaching Dictionary Skills in the Classroom.’ In Fontenelle, T., P. Hiligsmann, A. Michiels, A. Moulin and S. Theissen (eds.), *EURALEX ‘98 Actes/Proceedings*. Liege: Université Département d’Anglais et de Néerlandais, 565–577.

- Chi, M. L. A. 2011. 'When Dictionaries Support Vocabulary Learning, Where to Begin?' In Akasu K. and S. Uchida (eds), *ASIALEX Proceedings: Lexicography, Theoretical and Practical Perspectives*. Papers Submitted to the Seventh ASIALEX Biennial International Conference, Kyoto, 22–24 August 2011, 76–85.
- Chon, Y. V. 2008. 'The electronic dictionary for writing: a solution or a problem?' *International Journal of Lexicography*, 22.1: 23–54.
- Crystal, D. 2003. *The Cambridge Encyclopedia of the English Language* (Second edition). Cambridge: Cambridge University Press.
- De Schryver, G.-M., D. Joffe, P. Joffe and S. Hillewaert. 2006. 'Do Dictionary Users Really Look Up Frequent Words? — On the Overestimation of the Value of Corpus-based Lexicography.' *Lexikos* 16: 67–83.
- Dörnyei, Z. and T. Taguchi. 2010. *Questionnaires in Second Language Research: Construction, Administration, and Processing* (Second edition.) London: Routledge. doi:10.4324/9780203864739
- Dringó-Horváth, I. 2012. 'Lernstrategien im Umgang mit digitalen Wörterbüchern.' *Fremdsprache Deutsch* 46: 34–40. doi:10.37307/fj.2194-1823.2012.46.08
- Dringó-Horváth, I. 2017. 'Digitális szótárak – szótárdidaktika és szótárhasználati szokások.' [Digital Dictionaries – Dictionary Didactics and Dictionary Use Habits.] *Alkalmazott Nyelvtudomány* 17.5: 1–27.
- Dringó-Horváth, I. 2021. 'Digitale Wörterbücher – Auswahlkriterien und angepasste Wörterbuchdidaktik.' *Fremdsprache Deutsch* 64: online https://fremdsprachedeutschdigital.de/download/fd/FD_64_online_Dringo-Horvath.pdf
- Dziemianko, A. 2022. 'The Usefulness of Graphic Illustrations in Online Dictionaries.' *ReCALL* 34.2: 218–234. doi:10.1017/S0958344021000264
- Frankenberg-Garcia, A. 2005. 'A Peek into What Today's Language Learners as Researchers Actually Do.' *International Journal of Lexicography* 18.3: 335–355. doi:10.1093/ijl/eci015
- Frankenberg-Garcia, A. 2015. 'Dictionaries and Encoding Examples to Support Language Production.' *International Journal of Lexicography* 28.4: 490–512. doi:10.1093/ijl/ecv013
- Gaál, P. 2016. *Online szótárak és használók: Onlineszótár-használati kutatások, online szótárak értékelési és minősítési szempontjai*. [Online Dictionaries and their Users: Research on the Use of Online Dictionaries.] Ph.D. Thesis, University Pécs.
- Gaál, P. 2017a. 'Onlineszótár-használat Magyarországon (OHM): Egy kérdőíves szótárhasználati felmérés eredményei II.' [Research Project on Online Dictionary Use in Hungary: The Findings of a Questionnaire on Dictionary Use.] *Alkalmazott Nyelvtudomány* 17.1: 5–19.
- Gaál, P. 2017b. 'Online-szótár-használati szokások vizsgálata Magyarországon.' [Research into the Use of Online Dictionaries in Hungary.] In Ludányi Zs. (ed.), *Doktoranduszok tanulmányai az alkalmazott nyelvészet köréből 2017: XI. Alkalmazott Nyelvészeti Doktorandusz Konferencia*. Budapest: MTA Nyelvtudományi Intézet, 65–75.
- Gates, J. E. 1997. 'A survey of the teaching of lexicography 1979–1995.' *Dictionaries* 18: 66–93.
- George, B. and S. K. Pandey. 2017. 'We Know the Yin—But Where Is the Yang? Toward a Balanced Approach on Common Source Bias in Public Administration Scholarship.' *Review of Public Personnel Administration* 37.2: 245–270. doi:10.1177/0734371X17698189
- Granger, S. and M.-A. Lefer. 2016. 'From General to Learners' Bilingual Dictionaries: Towards a More Effective Fulfilment of Advanced Learners' Phraseological Needs.' *International Journal of Lexicography* 29.3: 279–295.
- Gromann, D. and J. Schnitzer. 2016. 'Where do Business Students Turn for Help? An Empirical Study on Dictionary Use in Foreign-language Learning.' *International Journal of Lexicography* 29.1: 55–99. doi:10.1093/ijl/ecv027
- Hartmann, R. R. K. (ed.). 1999. *Dictionaries in Language Learning*. Berlin: Free University/FLC/TNP.
- Kemmer, K. 2010. 'Online Wörterbücher in der Wörterbuchkritik. Ein Evaluationsraster mit 39 Beurteilungskriterien.' *Online publizierte Arbeiten zur Linguistik: OPAL 2/2010*: 1–33.
- Kontra, M. 1997. 'Szótárhasználók a magyar szótárirás aranykorában.' [Dictionary Users in the Golden Age of Hungarian Dictionary Writing.] In Kiss, G. and G. Zaicz (eds), *Szavak – Nevek – Szótárak. Írások Kiss Lajos 75. születésnapjára*. Budapest: MTA Nyelvtudományi Intézete, 228–232.
- Koplenig, A., P. Meyer and C. Müller-Spitzer. 2014. 'Dictionary Users Do Look Up Frequent Words: A Log File Analysis.' In Müller-Spitzer, Carolin (ed), *Using Online Dictionaries*. Berlin/Boston: De Gruyter. 229–250.
- Kosem, I., R. Lew, C. Müller-Spitzer, M. Ribeiro Silveira and S. Wolfer. 2018. 'The Image of the Monolingual Dictionary across Europe. Results of the European Survey of Dictionary Use and Culture.' *International Journal of Lexicography*, 32.1: 92–114. doi:10.1093/ijl/ecz002

- Laufer, B. 2011. 'The Contribution of Dictionary Use to the Production and Retention of Collocations in a Second Language.' *International Journal of Lexicography* 24.1: 29–49. doi:[10.1093/ijl/iccq039](https://doi.org/10.1093/ijl/iccq039)
- Lew, R. and K. Galas. 2008. 'Can Dictionary Use be Taught? The Effectiveness of Lexicographic Training for Primary School Level Polish Learners of English.' In Bernal E. and J. DeCesaris (eds), *Proceedings of the XIII EURALEX International Congress*. Barcelona: Universitat Pompeu Fabra, 1273–1285.
- Lew, R. 2011. 'Studies in dictionary use: recent developments.' *International Journal of Lexicography* 24.1: 1–4.
- Lew, R. 2013. 'Online Dictionary Skills' In Kosem, I., J. Kallas, P. Gantar, S. Krek, M. Langemets and M. Tuulik (eds), *Electronic Lexicography in the 21st Century: Thinking Outside the Paper. Proceedings of the eLex 2013 Conference, 17-19 October 2013, Tallinn, Estonia*. Ljubljana/Tallinn: Trojina, Institute for Applied Slovene Studies/Eesti Keele Instituut, 16–31.
- Lew, R. and G-M. De Schryver. 2014. 'Dictionary Users in the Digital Revolution.' *International Journal of Lexicography*, 27.4: 341–359. doi:[10.1093/ijl/ecu011](https://doi.org/10.1093/ijl/ecu011)
- Lew, R. 2015. 'Research into the Use of Online Dictionaries.' *International Journal of Lexicography* 28.2: 232–253.
- Lew, R. 2016. 'Dictionaries for learners of English.' *Language Teaching* 49.2: 291–294. doi:[10.1017/S026144481500049X](https://doi.org/10.1017/S026144481500049X)
- Márkus, K. and É. Szöllösy. 2006. 'Angolul tanuló középiskolásaink szótárhasználati szokásairól.' [The Dictionary Use Habits of Hungarian Secondary School Students Learning English as a Foreign Language.] In Magay, T. (ed), *Szótárak és Használóik. [Dictionaries and their Users.] Lexikográfiai füzetek 2*. Akadémiai Kiadó: Budapest, 95–116.
- Müller-Spitzer, C., A. Kopenig and A. Töpel. 2011. 'What Makes a Good Online Dictionary? – Empirical Insights from an Interdisciplinary Research Project.' In Kosem, I. and K. Kosem (eds), *Electronic lexicography in the 21st Century: New Applications for New Users. Proceedings of eLex2011, Bled, Slovenia, 10–12. November 2011*. Ljubljana: Trojina, Institute for Applied Slovene Studies, 203–208.
- Müller-Spitzer, C., A. Kopenig and A. Töpel. 2012. 'Online Dictionary Use: Key Findings from an Empirical Research Project.' In Granger, S. and M. Paquot (eds.), *Electronic Lexicography*. Oxford: Oxford University Press, 425–457.
- Müller-Spitzer, C. and A. Kopenig. 2014. 'Online Dictionaries: Expectations and Demands.' In Müller-Spitzer, C. (ed) *Using Online Dictionaries. (Lexicographica Series Maior 145.)*. Berlin: Walter de Gruyter, 143–188. doi:[10.1515/9783110341287.143](https://doi.org/10.1515/9783110341287.143)
- Müller-Spitzer, C. 2018. 'Textual Structures in Electronic Dictionaries Compared with Printed Dictionaries: A Short General Survey.' In Gouws, R., U. Heid, W. Schweickard and H. Wiegand (eds), *Supplementary Volume Dictionaries. An International Encyclopedia of Lexicography: Supplementary Volume: Recent Developments with Focus on Electronic and Computational Lexicography*. Berlin, Boston: De Gruyter Mouton, 367–381. doi:[10.1515/9783110238136.367](https://doi.org/10.1515/9783110238136.367)
- Müller-Spitzer, C., A. Kopenig and S. Wolfer. 2018. 'Dictionary Usage Research in the Era of the Internet.' In Fuertes-Olivera, P. A. (ed), *The Routledge Handbook of Lexicography*. London: Routledge, 715–734. doi [10.4324/9781315104942-45](https://doi.org/10.4324/9781315104942-45)
- Müller-Spitzer, C., M. Nied Curcio, M. Domínguez Vázquez, I. M., da Silva Dias and S. Wolfer. 2018. 'Recherchepraxis bei der Verbesserung von Interferenzfehlern aus dem Italienischen, Portugiesischen und Spanischen: Eine explorative Beobachtungsstudie mit DaF-Lernenden.' *Lexicographica: International annual for lexicography* 34: 157–182.
- Nesi, H. 1999. 'The Specification of Dictionary Reference Skills in Higher Education.' In Hartmann, R. R. K. (ed.), *Dictionaries in Language Learning: Recommendations, National Reports and Thematic Reports from the Thematic Network Project in the Area of Languages, sub-project 9: dictionaries*. Berlin: Freie Universität Berlin, 53–67.
- Nesi, H. and Hailil, R. 2002. A Study of Dictionary Use by International Students at a British University. *International Journal of Lexicography* 15.4: 277–305. doi [10.1093/ijl/15.4.277](https://doi.org/10.1093/ijl/15.4.277)
- Nied Curcio, M. 2014. Die Benutzung von Smartphones im Fremdspracherwerb und -unterricht. In Abel, A., Ch. Vettori, Ch. and N. Ralli (eds), *Proceedings of the 16th EURALEX International Congress: The User in Focus*. Bolzano/Bozen: Institute for Specialised Communication and Multilingualism, 263–280.
- Nied Curcio, M. 2015. 'Wörterbuchbenutzung und Wortschatzerwerb. Werden im Zeitalter des Smartphones überhaupt noch Vokabeln Gelernt?' *Info DaF* 5: 445–468. doi:[10.1515/infodaf-2015-0504](https://doi.org/10.1515/infodaf-2015-0504)
- Nied Curcio, M. 2022. 'Dictionaries, Foreign Language Learners and Teachers. New Challenges in the Digital Era.' In Klosa-Kückelhaus, A., S. Engelberg, Ch. Möhrs and Storjohann, P. (eds), *Dictionaries*

- and Society: Proceedings of the XX EURALEX International Congress, 12–16 July 2022. Mannheim: IDS-Verlag, 71–84.
- Nurmukhamedov, U. 2017. 'The Contribution of Collocation Tools to Collocation Correction in Second Language Writing.' *International Journal of Lexicography* 30.4: 454–482. doi: [10.1093/ijl/ecw031](https://doi.org/10.1093/ijl/ecw031)
- P. Márkus, K. 2018. 'Szótárhasználati munkafüzetek az oktatásban – Gyerekszótárak.' [Dictionary Skills Workbooks in Education – Children's Dictionaries.] *Gyermeknevelés* 6.3: 123–134. doi: [10.31074/20183123134](https://doi.org/10.31074/20183123134)
- P. Márkus, K. 2019. 'Szótárhasználati munkafüzetek az oktatásban – használatban a Tanulószótárak.' [Dictionary Skills Workbooks in Education – Learner's Dictionaries.] *Modern Nyelvoktatás* 25.2: 42–62.
- P. Márkus, K. 2020a. 'A szótárhasználat jelene és jövője a közoktatásban – a nyelvoktatást szabályozó dokumentumok és segédanyagok tükrében.' [The Present and Future of Dictionary Use in Public Education – in the light of documents governing language teaching.] *Modern Nyelvoktatás* 26.1-2: 59–79.
- P. Márkus, K. 2020b. *Szótárhasználati munkafüzet – Angol tanulószótár.* [Dictionary Skills Workbook – English Learner's Dictionary] Szeged: Maxim Publishers.
- Quirk, R. 1973. 'The Social Impact of Dictionaries in the UK.' In McDavid, R., and A. Duckett (eds), *Lexicography in English*. New York: *Annals of the New York Academy of Sciences* 211, 76–88. doi: [10.1111/j.1749-6632.1973.tb49473.x](https://doi.org/10.1111/j.1749-6632.1973.tb49473.x)
- Ranalli, J. 2013. 'Online Strategy Instruction for Integrating Dictionary Skills and Language Awareness.' *Language Learning & Technology* 17.2: 75–99. doi: [10.125/44325](https://doi.org/10.125/44325)
- Reder, A. 2016. 'Wörterbücher und Digitale Tools als Ratgeber bei der Kollokatorsuche.' *Beiträge zur Fremdsprachenvermittlung* 58: 18–30. http://www.vep-landau.de/fileadmin/user_upload/bzf/Hefte/bzf_2016_58.pdf
- Rundell, M. 1988. 'Changing the Rules: why the Monolingual Learner's Dictionary Should Move away from the Native-Speaker Tradition.' In M. Snell-Hornby (ed), *ZüriLEX '86 Proceedings*. Tübingen: Franke Verlag, 127–137.
- Rundell, M. 1998. 'Recent Trends in English Pedagogical Lexicography.' *International Journal of Lexicography* 11.4: 315–342.
- Rundell, M. 1999. 'Dictionary Use in Production.' *International Journal of Lexicography* 12.1: 35–53. doi: [10.1093/ijl/12.1.35](https://doi.org/10.1093/ijl/12.1.35)
- Rundell, M. 2015. 'From Print to Digital: Implications for Dictionary Policy and Lexicographic Conventions.' *Lexikos* 25: 301–322.
- Szöllősy, É. 2004. 'Angolul tanulóink szótárválasztási szokásairól.' [EFL Students' Choice of Dictionaries for Use.] *Modern Nyelvoktatás* 10.4: 28–46.
- Svensén, B. 2009. *A Handbook of Lexicography. The Theory and Practice of Dictionary-Making*. Cambridge: Cambridge University Press.
- Tomaszczyk, J. 1979. 'Dictionaries: Users and Uses.' *Glottodidactica* 12: 103–119.
- Töpel, A. 2015. 'Das Wörterbuch Ist Tot – Es Lebe das Wörterbuch?!' *Info DaF* 5: 515–534. doi: [10.1515/infodaf-2015-0508](https://doi.org/10.1515/infodaf-2015-0508)
- Wolfer, S., Th. Bartz, Th., T. Weber, A. Abel, Ch. M. Meyer, C. Müller-Spitzer and A. Storrer. 2016. 'The Effectiveness of Lexicographic Tools for Optimising Written L1 Texts.' *International Journal of Lexicography* 31.1: 1–28. doi: [10.1093/ijl/ecw038](https://doi.org/10.1093/ijl/ecw038)