

# Dictionary Use among English Majors at Tertiary Level Education in Hungary<sup>1</sup>

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## 1. Introduction

In this study, English major undergraduates' dictionary use habits, preferences regarding dictionaries, previous education about dictionary use, and attitudes towards teaching dictionary use are investigated. The obtained data are presented and compared with previous research in the field.<sup>2</sup> The research was conducted with n=86 participants, and it used a survey method of distributing research questionnaires using Google Forms. The results reveal that dictionary use habits and preferences have been constantly changing in parallel with the advancement of electronic devices, online dictionaries, and translation programmes. Based on the findings we can state that although participants did not receive adequate education on reference skills, they recognise the importance and necessity of teaching dictionary use.

## 2. Methods

In order to fill the gap in the literature this quantitative research was conducted via a survey. Due to this effective method, a significant amount of data can be collected, and the initial hypotheses can be either confirmed or rejected on the basis of the findings. The following questions served as the research's guiding principles.

### 2.1. Research Questions

Previous research has shown that not many extensive investigations were accomplished in the given area. Therefore, the current study is aimed to address this research gap by investigating the following research questions:

**RQ1:** What characterises English major undergraduates' dictionary use habits and preferences?

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<sup>1</sup> The present study is a shortened version of a BA thesis that received an Honourable Mention award from the Department of English Linguistics and the Institute of English Studies at Károli Gáspár University of the Reformed Church in Hungary.

<sup>2</sup> The limitations on the scope of this study do not allow for a more expansive review of the relevant literature in the Hungarian and international context; however, those who are interested can access prior research through the given references.

**RQ2:** What kind of training did participants receive on dictionary use?

**RQ3:** Do participants show positive or negative attitudes towards the teaching of dictionary use?

## 2.2. Hypotheses

Based on the research questions, the following hypotheses were developed:

**H1:** Participants prefer free, online dictionaries, which are considered to be reliable and have up-to-date content.

**H2:** Participants are still not receiving adequate training on dictionary use.

**H3:** Even though participants have not received any training in dictionary use, they are likely to recognise its essentiality.

## 2.3. Participants

The participants of this research were Hungarian university students who are majoring in American and English studies and will receive their degrees in the upcoming years. The online questionnaire was only available in Hungarian, it did not contain any foreign words or collocations except the names of non-Hungarian online dictionaries.

Altogether 86 people were reached and answered the questions, out of whom 66% (n=57) were female and 34% (n=29) were male. All participants were English major undergraduates. Therefore, considering the age of the participants, no significant differentiation is shown. The average age was 23.

In Hungary, it is a requirement for secondary school students to take an advanced-level English final exam in order to get accepted into the British and American studies BA programme. If they successfully manage to pass this exam, they get a complex, B2 level (according to the Common European Framework of Reference for Languages), state-accredited language exam certificate. Consequently, all respondents marked that they had accomplished a B2 or a C1 level language exam. Precisely, 61% (n=52) of the respondents had B2 level, and 39% (n=34) had C1 level certificates. They were also asked to indicate whether they had been learning English for more or less than 10 years. The findings revealed that 31% (n=27) of the participants had been learning English for less than 10 years and 69% (n=59) people had more than 10 years of language learning experience.

## 2.4. Data Collection and Analysis

Data were collected between 20<sup>th</sup> November 2022 and 20<sup>th</sup> January 2023. The questionnaire was only available in Hungarian and was created by Google Forms. It was peer-reviewed and professional feedback was also provided. The acquired data was examined explicitly. In the survey, participants were asked to indicate what kinds of dictionaries they had in their possession (for instance, printed dictionaries, offline downloadable applications, online digital dictionary programmes). They were also required to mark how frequently they used monolingual and bilingual dictionaries. They had to prioritise different features of dictionaries from their own perspective. They were

asked to mark the frequency of using different kinds of features in dictionaries and the devices they used them on. Additionally, questions were posed regarding their previous training in reference skills and their attitudes towards teaching dictionary use.

Descriptive statistics were used to analyse the data in SPSS (Statistical Package for Social Sciences), which is one of the most popular statistical software platforms. The mean score (M) and standard deviation (SD) were computed for each questionnaire item. The standard deviation was used to measure the degree of variation within the participants' answers, whereas the mean scores were meant to indicate the typical values of the observations.

### 3. Results and Discussion

#### 3.1. Reliability of the Questionnaire

Cronbach's alpha coefficients were computed to assess the validity of the internal consistency of the scales employed in the study. Table 1 presents that the minimum reliability demands were fulfilled by the indicated scales since Cronbach's alpha reached 0.60, which is considered to be the lowest acceptable standard by Dörnyei and Taguchi.<sup>3</sup> The scales which showed no significant data were omitted from Table 1.

Scale	Number of items	Cronbach's alpha
Attitude towards teaching dictionary use in lessons	4	.661
The knowledge and conscious use of the additional material in dictionaries	4	.810
Willingness to pay	4	.610

Table 1 Reliability of Multi-item Scale

#### 3.2. Dictionaries Owned by Respondents and their Dictionary Use Habits

Questionnaire item	%	n
Offline (downloadable) dictionary application on smartphone (or other smart devices, e. g. tablet)	48.8	42
Printed dictionary	46.5	40
Offline (downloadable) digital dictionary programme on computer	26.7	23
Other translation devices (e. g. translator device, translator pen scanner)	12.8	11

Table 2 Types of Dictionaries Owned by Participants

<sup>3</sup> Dörnyei – Taguchi: Questionnaires in second language research, 93–96.

Table 2 shows that less than half of the participants (47%) claimed to own printed dictionaries. A possible explanation for these results may be the fact that the survey was conducted with undergraduate students, so the average age gap of the participants was between 18 and 25 years. People of this generation (Generation Z) have had access to the internet, social media platforms, and smart devices from a very early age; thus, it is hardly surprising that they mostly use electronic devices. These results show a striking difference compared with the findings of the research carried out by Ida Dringó-Horváth *et alii*, where out of 197 respondents, 188 (95%) indicated that they possessed printed dictionaries. This discrepancy could be attributed to the fact that Dringó-Horváth *et alii* worked with a rather larger sample size and the average age of their group of respondents was 34. As shown in Table 2, offline (downloadable) dictionary applications on smart devices seemed to be the most popular among English major undergraduates with 49%. In line with previous research,<sup>4</sup> only 27% of the participants indicated having offline (downloadable) digital dictionary programmes on their computers. The possession of translation tools came in the last place with 13%, which is somewhat higher than the 9% presented by Dringó-Horváth *et al.* in their study. Interestingly, not a single respondent claimed to have any online dictionary subscriptions, which can be explained by the findings of previous studies<sup>5</sup> concerning the respondents' reluctance to pay (further detail provided in Table 12).

Questionnaire item	Mean	Standard Deviation
Bilingual dictionaries	3.73	1.30
Monolingual dictionaries	2.98	1.48

Table 3 Frequency of Monolingual and Bilingual Dictionary Use

The table above illustrates that the frequency of bilingual dictionary use among participants is higher ( $M=3.73$ ;  $SD=1.30$ ). These results agree with the findings of other studies,<sup>6</sup> in which researchers also concluded that bilingual dictionaries are generally more favoured. Dringó-Horváth *et alii* had similar figures regarding the use and preference of these two types of dictionaries. The higher mean scores (bilingual dictionary use:  $M=4.22$ ; monolingual dictionary use:  $M=4.03$ ) presented by Dringó-Horváth *et alii* may be related to the greater sample size they worked with.<sup>7</sup>

<sup>4</sup> Dringó-Horváth – P. Márkus – Fajt: Szótárhasználati ismeretek vizsgálata...

<sup>5</sup> Gaál Péter: Onlineszótár-használat Magyarországon...; Dringó-Horváth – P. Márkus – Fajt: Szótárhasználati ismeretek vizsgálata...

<sup>6</sup> Tomaszczyk: Dictionaries: users and uses...; Baxter: The dictionary and vocabulary behavior...; Atkins – Krista Varantola: Monitoring dictionary use...; Szöllősy: Angolul tanulóink szótárhasználati szokásairól...; P. Márkus – Fajt: Anglisztika szakos hallgatók szótárhasználati szokásai...

<sup>7</sup> Dringó-Horváth – P. Márkus – Fajt: Szótárhasználati ismeretek vizsgálata...

Questionnaire item	Mean	Standard Deviation
Smartphone	4.51	.86
Desktop computer or laptop	4.24	1.13
Tablet	1.50	1.10
E-book reader	1.16	.59
Smartwatch	1.05	.34

*Table 4* Frequency of Electronic Device Use Related to Digital Dictionaries

One unanticipated finding was that smartphones ( $M=4.51$ ;  $SD=.86$ ) outranked desktop computers and laptops ( $M=4.24$ ;  $SD=1.13$ ). This was predicted by Dringó-Horváth *et alii* who noted that smartphones have become more and more popular but could not claim the first place among electronic devices utilised for dictionary use, until now. However, P. Márkus *et alii* suggested in a recent study that among their participants, desktop computers and laptops came in first place invariably.<sup>8</sup> A possible explanation for these results might be the variation of the participants' age alongside the rapid and successive development of smartphones. Tablets ( $M=1.50$ ;  $SD=1.10$ ), e-book readers ( $M=1.16$ ;  $SD=.59$ ), and smartwatches ( $M=1.05$ ;  $SD=.34$ ) lag behind mobiles and computers just like previous studies<sup>9</sup> reported.

Questionnaire item	Mean	Standard Deviation
Online dictionaries (accessible on websites)	4.16	1.20
Translator applications / programmes (e.g., Google Translate)	3.99	1.29
Search engines (e.g., Google)	3.97	1.17
Offline (downloadable) dictionary applications on smart devices (e.g., laptops, smartphones, tablets)	2.67	1.55
Printed dictionaries	2.42	1.22
Offline (downloadable) digital dictionaries on computers	1.72	1.21

*Table 5* Use of Different Dictionary Types

<sup>8</sup> P. Márkus – Fajt – Dringó-Horváth: Dictionary skills in teaching English and German...

<sup>9</sup> Gaál: Onlineszótár-használat Magyarországon...; Dringó-Horváth – P. Márkus – Fajt: Szótárhasználati ismeretek vizsgálata...

From the data in Table 5, it is apparent that the use of online dictionaries is the most prevalent ( $M=4.16$ ;  $SD=1.20$ ), which is in line with previous findings.<sup>10</sup> Translator applications and programmes ranked second ( $M=3.99$ ;  $SD=1.29$ ), only just exceeding search engines ( $M=3.97$ ;  $SD=1.17$ ). Although the data obtained from Table 2 suggests that most people have access to offline (downloadable) dictionary applications on different smart devices, this type of dictionary, in terms of its usage, finished only in fourth place ( $M=2.67$ ;  $SD=1.55$ ). Even though 26.7% of respondents indicated that they have offline (downloadable) digital dictionaries on their computers (see in Table 4), the rather low mean score ( $M=1.72$ ) suggests that these types of dictionaries are utilised relatively rarely. There are no significant differences between the scores of the standard deviation ( $SD$  values are between 1.17 and 1.55), therefore it can be seen that participants' responses are quite similar and appear within a narrow range.

Questionnaire item	Mean	Standard deviation
Professional purposes (such as, for work, study, research, writing professional letters, etc.)	4.49	.92
Private purposes (e.g., for entertainment)	3.59	1.20

Table 6 Frequency of the Use of Digital Dictionaries for Private and for Professional Purposes

The results of the self-reported data suggest that participants most customarily use dictionaries for professional purposes ( $M=4.49$ ;  $SD=.92$ ). The low score of the standard deviation shows that there were no significant dissimilarities between the respondents' answers. Precisely,  $n=61$  people marked five (the number representing the highest frequency) and  $n=12$  participants marked four on the scale. The findings of the current study support previous research<sup>11</sup> since Gaál highlighted that in his study, 90% of the respondents ( $n=290$ ) seemed to consider dictionaries as useful tools for work. Gaál pointed out that the results may be explained by the fact that his questionnaire was completed by translators, foreign language teachers, and foreign language major students; therefore, because of the overrepresentation of the aforementioned categories, the results are hardly surprising since respondents were likely to be required to use dictionaries for professional purposes on a daily basis. Gaál's explanation may also be valid in the present research since the participants have been exclusively English major undergraduates. A relatively high mean score can be observed regarding the use of dictionaries for private purposes ( $M=3.59$ ;  $SD=1.20$ ), which differs from the data of previous research carried out by Gaál. The reason for this is not clear but it may have something to do with the participants' specific interpretations of the given answers.

<sup>10</sup> Gaál Péter: Onlineszótár-használat Magyarországon...; Takkaç Tulgar: Dictionary use of undergraduate students...; Dringó-Horváth: Digitális szótárak...; Dringó-Horváth - P. Márkus - Fajt: Szótárhasználati ismeretek vizsgálata...

<sup>11</sup> Gaál: Onlineszótár-használat Magyarországon..., 2016; Gaál: Onlineszótár-használat Magyarországon..., 2017.

Feature	Mean	Standard deviation
Reliability (quality content)	4.76	.65
Navigability of entries (the sought words or information can be easily found)	4.53	.76
Up-to-date content	4.29	1.03
Speed	3.95	1.04
Multimedia content (pictures, videos, audio)	2.49	1.24
Availability of a built-in vocabulary learning programme (possibility of creating personal quizzes, glossaries)	2.37	1.27

*Table 7* Participants' Preferences Regarding Certain Features of Online Dictionaries

Table 7 illustrates the features considered most important by dictionary users. The first three places are claimed by reliability ( $M=4.76$ ;  $SD=.65$ ), navigability ( $M=4.53$ ;  $SD=.76$ ) and up-to-date content ( $M=4.29$ ;  $SD=1.03$ ). Speed finished in fourth place with a relatively high mean score ( $M=3.98$ ;  $SD=1.04$ ). Multimedia content ( $M=2.49$ ;  $SD=1.24$ ) and the availability of built-in vocabulary learning programmes ( $M=2.37$ ;  $SD=1.27$ ) seem to be less important factors of online dictionaries for the surveyed group.

These results match those observed in earlier studies.<sup>12</sup> The low standard deviation signals that participants' responses stayed within a limited range, so they gave similar answers.

Dictionary	Mean	Standard deviation
SZTAKI	2.51	1.52
DictZone	2.48	1.60
Akadémiai Publishers	1.73	1.14
Grimm-dictionaries	1.60	1.12
MorphoLogic	1.26	.67

*Table 8* Frequency of the Use of Different Digital Bilingual Dictionaries Developed in Hungary

The dictionaries listed in the table above were all developed in Hungary, and they are considered to be the most well-known online dictionaries in the country. Although SZTAKI ( $M=2.51$ ;  $SD=1.52$ ) and DictZone ( $M=2.48$ ;  $SD=1.60$ ) dictionaries are the highest-ranked ones, the mean scores for these dictionaries are rather low. The data obtained from Table 8 proves that DictZone became more popular in the last couple of

<sup>12</sup> Gaál: Onlineszótár-használat Magyarországon..., 2016.; Gaál: Onlineszótár-használat Magyarországon..., 2017.

years since six years ago Dringó-Horváth reported that Akadémiai Publishers were ranked before DictZone.<sup>13</sup> Akadémiai Publishers ( $M=1.73$ ;  $SD=1.14$ ) mainly offer online dictionaries to which people can subscribe online. On their web page, they encourage users to try out “szotar.net” and to download the application to their smart devices. Even though Grimm-dictionaries ( $M=1.60$ ;  $SD=1.12$ ) offer both downloadable and online options, participants show no noteworthy interest towards them. MorphoLogic ( $M=1.26$ ;  $SD=.67$ ) offers a wide range of downloadable online dictionaries for users. Once the users have decided which dictionary they prefer, they have four options regarding which subscription they favour (online subscription for one year; offline subscription for one, two or three years).

Dictionary	Mean	Standard deviation
Cambridge	2.92	1.55
Oxford	2.79	1.53
Urban Dictionary	2.73	1.50
Macmillan	1.73	1.24
The Free Dictionary	1.69	1.13
Merriam Webster Dictionary	1.66	1.18
Longman	1.62	1.18

Table 9 Frequency of the Use of International Dictionaries

The results presented in Table 9 seem to suggest that English major students use international dictionaries more often than the ones developed in Hungary. Since at the beginning of the 2000s, online dictionaries were present only in slight numbers, Szöllősy mainly focused on printed monolingual dictionaries. From the data presented in her study, it can be seen that the printed versions of Longman, Oxford and Macmillan dictionaries occupied prestigious positions even twenty years ago just as their online versions do today.<sup>14</sup> Based on the figures in Table 9, Cambridge ( $M=2.92$ ;  $SD=1.55$ ), Oxford ( $M=2.79$ ;  $SD=1.53$ ) and the Urban Dictionary ( $M=2.73$ ;  $SD=1.50$ ) seem to be the most frequently used. This outcome is not surprising since all three dictionaries provide contents that meet the needs of dictionary users (for more details see Table 7). The brisk rise in popularity of the Urban Dictionary can be explained by the fact that it is a crowdsourced dictionary, edited by users, which ensures that new words and meanings (even slang words and terms) can be immediately displayed and explained; however, dictionaries edited by lexicographers may never indicate those terms in their dictionaries. Macmillan, The Free Dictionary, Merriam Webster Learner’s Dictionary, and

<sup>13</sup> Dringó-Horváth: Digitális szótárak...

<sup>14</sup> Szöllősy: Angolul tanulóink szótárválasztási szokásairól.

Longman (the mean scores for the items are below 1.75) also provide extra features (such as up-to-date content, quizzes, etc.), so further examination is needed in order to understand why they lag behind the first three options. It is important to note that the participants of the current study were exclusively university students, from whom monolingual dictionary use is expected because of their level of language proficiency.

It would be beneficial if further investigations were carried out focusing on why most participants were more likely to use the dictionaries ranked in the top three places, and also, on what factors influence them mostly.

### 3.3. Open-ended Question on Additional Dictionaries

In the questionnaire, one open-ended question was posed. It aimed to collect data on whether participants used any other digital dictionaries in addition to the ones already given within the answers to the previous questions (see in Tables 8 and 9). It has to be noted that in some cases, respondents named translators or translator programmes, not dictionaries. The majority of respondents ( $n=9$ ), who decided to answer this question, reported using DeepL, which is an online translator programme (but has downloadable applications for iOS, Android, and Chrome) that can translate texts or even files. It also has a dictionary section; however, it is unavailable for most language pairs. A small number of people mentioned using topszotar.hu ( $n=5$ ) meanwhile bab.la, Quizlet, and the application called Angol szótár were each mentioned by only two people.

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).	2.97	1.48
I use the multimedia elements of the digital dictionary (pictures, videos, audio for pronunciation).	2.93	1.30
With the appropriate settings, I allow the publisher to monitor my user habits to update and improve the online dictionary.	2.36	1.38
I try to customise the online dictionaries I use (user settings: e.g., colours, font size, hide / show information function).	1.66	1.03
When using digital dictionaries, I supplement the information contained in them (e.g., adding my own words, supplementing existing articles).	1.57	1.01

*Table 10* Use of Unique Features Relating to Digital Dictionaries

Table 10 presents the frequency of using unique features in digital dictionaries. Additionally, the table above can also give feedback on whether participants even know about these features. The comparatively low mean scores (all mean scores are below 3.00) can indicate that the participants are not familiar with the listed features. Similarly to the

findings of Dringó-Horváth et alii,<sup>15</sup> the most favoured features are the use of content related to other dictionaries or additional texts ( $M=2.97$ ;  $SD=1.48$ ), and the usage of multimedia elements ( $M=2.93$ ;  $SD=1.30$ ). No significant number of respondents allow the publisher to monitor their user habits, even if it is in order to improve the dictionary ( $M=2.36$ ;  $SD=1.38$ ). Personalisation and customisation of online dictionaries ( $M=1.66$ ;  $SD=1.03$ ) alongside adding additional words and providing supplementary information ( $M=1.57$ ;  $SD=1.01$ ) appear to be quite irrelevant for the respondents.

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.	3.48	1.39
I make use of the fact that digital dictionaries are able to save previous search results, and it is easier to find previously searched items.	2.66	1.41
I use pop-up dictionaries searchable by selecting and seeing the results in a speech bubble above the selected item.	2.19	1.29
When using digital dictionaries, I also use special search characters if necessary (such as *, OR, +, -).	1.79	1.06
When using digital dictionaries, I use voice search whenever possible.	1.76	1.08

Table 11 Use of Search Methods Relating to Digital Dictionaries

Table 11 provides an overview of respondents' use of different search methods. Participants indicated that they tend to employ the technique of searching for several words simultaneously when trying to find idioms and fixed expressions, and this search method seems to be the most common among Hungarian, English major students ( $M=3.48$ ;  $SD=1.39$ ). It can be seen from the data in Table 11 that the ability to save previous search results ( $M=2.66$ ;  $SD=1.42$ ) and the usage of pop-up dictionaries ( $M=2.19$ ;  $SD=1.29$ ) are infrequently used by the respondents. The utilisation of special search characters and voice search claim the last two places since the mean scores of these two items are both below 1.80. It is apparent from the table above that even university students majoring in English do not take advantage of some of the extra possibilities offered by online dictionaries. The present data confirm previous findings<sup>16</sup> and contribute additional evidence that suggests that dictionary users are not familiar with additional search methods of online dictionaries and this realisation can be a potential explanation for the poor figures.

<sup>15</sup> Dringó-Horváth – P. Márkus – Fajt: Szótárhasználati ismeretek vizsgálata...

<sup>16</sup> Dringó-Horváth: Digitális szótárak...; Dringó-Horváth – P. Márkus – Fajt: Szótárhasználati ismeretek vizsgálata...

Questionnaire item	Mean	Standard Deviation
When purchasing a dictionary, price is the most important factor for me.	2.29	1.20
I am happy to buy a dictionary either in printed or electronic form.	2.35	1.21
I think that money spent on dictionaries is money well spent.	1.81	1.12

Table 12 *Participants' Willingness to Pay for Dictionaries*

The results obtained from the preliminary analysis of participants' willingness to pay for dictionaries are presented in Table 12.<sup>17</sup> As can be seen from the table (above), the mean scores of the items are relatively low (below 2.50). Participants seem neutral when it comes to the question of whether price is an important factor for them when purchasing a dictionary or not. In the case of the second item, they indicate that they are not explicitly happy to pay for dictionaries. These results could have been predicted based on the data shown in Table 2, where not one respondent claimed to have any online dictionary subscriptions. Researchers have reported the same findings regarding participants' reluctance to pay for these services. These results provide further support for the hypothesis made by Dringó-Horváth *et alii*, according to which respondents are not aware of the significant differences between free and paid online dictionaries (e.g., additional features; see Table 10 and 11), and this could negatively affect their willingness to spend money on dictionaries.<sup>18</sup> In future investigations, it might be useful to ask additional questions regarding people's willingness to buy dictionaries or pay for subscriptions. For instance, it would be beneficial to know whether people use online dictionaries because they prefer their features and the options they offer; or people use them just because they are free.

Questionnaire item	Mean	Standard Deviation
I usually look through the list of abbreviations in dictionaries.	2.23	1.19
I usually review the guide to dictionary use in dictionaries.	1.91	1.12
In dictionaries, I read the page that gives a sample entry.	1.91	1.14
In dictionaries, I always read the introduction and the preface.	1.57	.95

Table 13 *Conscious Use of Additional Materials in Dictionaries*

<sup>17</sup> Reversed item: in the original questionnaire, the last statement was phrased in a negative way and meant the exact opposite.

<sup>18</sup> Dringó-Horváth – P. Márkus – Fajt: Szótárhasználati ismeretek vizsgálata...

As shown in Table 13, respondents do not tend to use the additional materials provided in dictionaries even though it would be beneficial since in Table 14, participants indicated that no adequate training was provided regarding dictionary use during their studies. This assumption is supported by the data shown in the table above, where it can be seen that all items' mean score was below 2.30. There is a slight difference between the mean score of the first statement ( $M=2.23$ ;  $SD=1.19$ ) and the other statements, so it can be concluded that respondents are more likely to read the list of abbreviations than the other extra materials. Reading the page that gives a sample entry ( $M=1.91$ ;  $SD=1.12$ ) and reviewing the guide ( $M=1.91$ ;  $SD=1.14$ ) have the same mean scores and the standard deviation is also very similar in the case of both items. The figures shown in Table 13 are slightly lower than the data presented by Dringó-Horváth et alii but the sequence of the items remained unchanged.<sup>19</sup> A possible explanation of the low scores might be the fact that respondents might not even know about these materials. P. Márkus *et alii* stated that even though lexicographers and publishers have been constantly trying to provide more user-friendly material, this has shown no significant effect on the users' attitudes so far.<sup>20</sup>

### 3.4. Participants' Previous Experience of Learning Dictionary Use

Questionnaire item	Mean	Standard Deviation
I learned how to use a dictionary by myself, in an autodidactic manner.	2.76	1.33
I learned how to use a dictionary during my higher education studies.	2.62	1.46
I was taught how to use a dictionary in high school.	2.49	1.45
My parents and other family members taught me how to use a dictionary.	2.26	1.43
I was taught the use of a dictionary in primary school.	2.06	1.39
I learned the use of dictionaries in separate (further) training, conferences, workshops.	1.23	.66

Table 14 Participants' Previous Experience in Reference Skills

In line with the results of previous research, most participants claim to have learnt dictionary use individually, in an autodidactic manner ( $M=2.76$ ;  $SD=1.33$ ). Out of the six proposed possibilities, acquiring knowledge of dictionary use during higher education studies ( $M=2.62$ ;  $SD=1.46$ ) turned out to be the second most common choice,

<sup>19</sup> Dringó-Horváth – P. Márkus – Fajt: Szótárhasználati ismeretek vizsgálata...

<sup>20</sup> P. Márkus – Fajt – Dringó-Horváth: Dictionary Skills in Teaching ...

closely followed by learning it in high school ( $M=2.49$ ;  $SD=1.45$ ). Dringó-Horváth reported that only few participants indicated that they learned these skills from their parents, or learned them in primary school, so these two ways of acquiring knowledge on dictionary use came in fourth and fifth places in her study, just like in this study.<sup>21</sup> Learning dictionary use in workshops and conferences ( $M=1.23$ ;  $SD=.66$ ) seems to lag behind the other options; however, this may be explained by the fact that probably, as university students, participants have not yet completed further training. The assumptions of previous research<sup>22</sup> are confirmed by the data obtained from Table 14 in relation to the lack of adequate teaching of dictionary use in schools and the recent findings shed light on the need for the teaching of dictionary use in schools.

### 3.5. Participants' Attitudes towards Teaching Dictionary Use

Questionnaire item	Mean	Standard Deviation
It is important to learn the correct use of dictionaries.	4.16	1.04
Teaching proper dictionary use is a task for language classes.	3.78	1.21
Dictionary use should be taught: not everyone knows how to use one.	1.85	1.11
I think that dictionary use should be learnt during language lessons in schools.	1.44	.84

*Table 15 Attitudes towards Teaching Dictionary Use*

As can be seen in Table 15, respondents agree on the importance of learning dictionary use ( $M=4.16$ ;  $SD=1.04$ ), and also argue that it should be taught in schools, precisely in language classes ( $M=4.16$ ;  $SD=1.04$ ). The second two answer options were reversed items, so in the questionnaire it was investigated whether participants agree or disagree with the following statements: everybody knows how to use a dictionary and there is no need to teach these skills ( $M=1.85$ ;  $SD=1.11$ ); dictionary use should not be taught during language lessons ( $M=1.44$ ;  $SD=.84$ ). Therefore, the modest scores of the standard deviation suggest that most participants did not agree with the aforementioned statements; thus, the majority of respondents feel that dictionary use should be taught, and the teaching of dictionary skills should be included in

<sup>21</sup> Dringó-Horváth: Digitális szótárak..., 2017.

<sup>22</sup> Márkus – Szöllősy: Angolul tanuló középiskolásaink szótárhasználati szokásairól, 95–116; P. Márkus: Szótárhasználati munkafüzetek az oktatásban... [Dictionary Skills Workbooks in Education – Children's Dictionaries]; P. Márkus: Szótárhasználati munkafüzetek az oktatásban... [Dictionary Skills Workbooks in Education – Learner's Dictionaries.]; P. Márkus: A szótárhasználat jelene és jövője a közoktatásban... [The Present and Future of Dictionary Use in Public Education – in the light of documents governing language teaching.]; P. Márkus – Fajt – Dringó-Horváth: Dictionary Skills in Teaching ...

language lessons.<sup>23</sup> These results seem to support the findings of previous research.<sup>24</sup>

#### 4. Conclusion

The main goal of the current study was to explore undergraduate English majors' preferences regarding dictionaries, their dictionary use habits, their previous education on dictionary use, and their attitudes towards teaching dictionary use. Returning to the research questions posed before, it is now possible to state that participants' dictionary use habits and preferences have been constantly changing due to the rapid development of electronic devices, online dictionaries, and translation programmes; however, no significant differentiation can be detected regarding the lack of training in dictionary use, nor concerning students' knowledge of the features that are provided by digital dictionaries. Based on the quantitative analysis of the answers of the target group, respondents predominantly agree with the essentiality of teaching dictionary use.

As for the main characteristics of English major undergraduates' dictionary use habits and preferences regarding dictionaries (RQ1), it may be concluded that even though they primarily own printed dictionaries and offline (downloadable) dictionary applications, they mostly utilise online dictionaries and search engines; therefore, the first hypothesis (H1) is proven. Additionally, smartphones overtake computers and laptops in the competition of the most frequently used electronic devices. Unfortunately, the self-reported data shows that participants do not have a thorough knowledge of the unique features, search methods, and additional materials offered by dictionaries. The obtained data also represents that participants mostly use dictionaries for professional purposes rather than private matters. According to the respondents, the most important features of online dictionaries are reliability, navigability, and up-to-date content (H1). Participants' willingness to pay for dictionaries remains quite low. Concerning respondents' training in dictionary use (RQ2), the majority of participants claim to acquire the necessary reference skills in an autodidactic manner. Thus, the second hypothesis (H2), that participants did not receive adequate training in dictionary use, is also confirmed. Unfortunately, the results show that it is not likely that students can acquire this kind of knowledge during their studies. Reflecting on RQ3, which investigated the participants' attitude towards teaching dictionary use, it is apparent that respondents believe that it is important to learn how to use dictionaries correctly, and it is a task to be solved in language lessons. These data support the third hypothesis (H3).

Overall, this study strengthens the idea that research into dictionary use is essential for providing reliable and user-friendly dictionaries. Moreover, the innovative but unfortunately currently unknown features of digital dictionaries should be introduced and taught to the users in order to ensure that they get the dictionary experience they deserve and that the creators originally intended for them.

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<sup>23</sup> Reversed items: in the original questionnaire, the last two statements were phrased in a negative way and meant the exact opposite.

<sup>24</sup> Dringó-Horváth – P. Márkus – Fajt: Szótárhasználati ismeretek vizsgálata...

## Limitations

The sample size was quite small, only 86 people were reached and involved in the research. The proportion of women was much higher, precisely 57 female and only 29 male respondents were engaged. The online questionnaire was only available for two months which can be considered as a short period of time. It is also essential to keep in mind that the results are based on self-reported data, which may not always accurately reflect the actual behaviors. Thus, because of the aforementioned reasons, the findings of this study cannot be generalised.

## Future Research

The main purpose of this study was to examine a specific target group's, namely English major undergraduates, dictionary use habits, and the contributing factors to their dictionary selection. Even though the quantitative research method allows researchers to collect a considerable amount of data, by using solely self-report questionnaires invalid data can be easily produced. Therefore, it would be advantageous to carry out a further study by using the qualitative research method or the mixed methodology (combination of qualitative and quantitative methods), which could provide more detailed results. It would also be beneficial to conduct surveys with diverse target groups in several countries.

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