Millennials as Dictionary Users: A Study of Dictionary Use Habits of Serbian EFL Students

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Abstract
The article addresses the use of dictionaries among the new millennium generation of English as a foreign language (EFL) undergraduates. Applying the mixed-method approach (a questionnaire and interviews), the study examines the frequency of dictionary use, the types of dictionaries used, activities initiating dictionary consultation, information searched for, and problems faced in using dictionaries. The findings suggest that the participants are most fond of bilingual online dictionaries and use them mostly for looking up the meaning of unknown words. They also show that despite being high consumers of technology, participants do not benefit much from online dictionaries, as they neglect most of the entry information. The qualitative data reveal that the participants perceive various digital tools of questionable quality as online dictionaries. Overall, the study sheds light on the characteristic behavior of the new generation of EFL learners regarding their dictionary use and points to the necessity of developing their digital competence in the realm of dictionary use.

Keywords
dictionary, dictionary use, dictionary user, millennials, EFL

Introduction
Dictionaries are usually referred to as tools primarily designed to assist human users in language-related tasks (Lew, 2015). This being the case, they have always been considered a valuable resource and learning tool in foreign language (L2) education because they provide learners with various information—phonological, morphological, syntactical, semantic, etymological, and usage information (Hamouda, 2013). Thus, foreign language learners have always been considered an important target group in the lexicographic practice. Empirical studies on dictionary use, however, do not have a long tradition and until very recently dictionary users were not of central concern in the process of dictionary making (Lew, 2015), as the focus was more on the dictionary content. With time, however, this view has changed. Fuertes-Olivera and Tarp (2014, p. 23), for example, advocate a function theory of lexicography, according to which dictionaries are utility tools. Accordingly, as Lew (2011) observes, experts today agree that dictionaries should be compiled primarily with the users’ needs in mind.

Modern technologies have brought about tremendous changes in the way we access and process various sources of information today and this extends to dictionary use as well. As Lew and De Schryver (2014, p. 341) observe, in the information age the status of the dictionary is changing, and so are patterns of user behavior. As with searching any other piece of information, dictionary consultation today relies more and more on digital tools and online resources. This particularly seems to be the case with Millennials, “those generations born from the 1980s onwards and who have been raised in a context where digital technologies form an inextricable part of daily life” (Pedró, 2006, p. 2). Their active use of digital media has changed their notions of communication, personal and social values, as well as their knowledge management and learning (Noguera Fructuoso, 2015, p. 52). Accordingly, educational practices need to change to meet the needs of these generations. Referring to the context of L2 education and lexicographic queries, that is, dictionary use skills, it is important to know how these generations of learners search for lexical information. As Lew and De Schryver (2014, p. 341) emphasize, we need to know more about dictionary users and their behavior in the digital environment to find out what type of lexical reference tools we will need in the future. Addressing this issue, this study aims at exploring
dictionary use in the context of foreign language education, more precisely, in English as a foreign language (EFL) education. Applying the mixed-method research methodology, this study examines dictionary use habits of non-philology students studying at a Serbian university specifically focusing on the frequency of dictionary use, the types of dictionaries used, activities initiating dictionary consultation, information searched for, and problems faced in using dictionaries.

**Studies on Dictionary Use in L2 Education**

Research into dictionary use is the most recent and least developed area within the field of dictionary research (Wiegand, 1998, in Töpel, 2014). The reason for this mainly lies in the private nature of dictionary consultation (Lew, 2015), which makes it very difficult for studying, both from the technical and the ethical point of view. Additional difficulty lies in the complexity of the issue itself, as the study of dictionary use may take into account different types of users, different types of dictionaries, identification of users’ needs and activities, and investigation of their dictionary use skills (Nesi, 2013). Each of these four segments will briefly be reviewed below. Finally, from the aspect of dictionary use in L2 teaching and learning, the lack of research may also be associated with a general neglect of dictionary use in this segment of education (Augustyn, 2013). Reluctance to dictionary use may well be due to the principles of communicative approach favoring general comprehension and guessing the meaning from the context rather than consulting a dictionary, as well as to the still prevailing teacher-centered approach (Müller, 2002). Additional reasons, as observed by Carstens (1995), can be found in poor availability of dictionaries in language classrooms and students’ poor reference skills.

Addressing research on dictionary use from the perspective of dictionary users, Varantola (2002, p. 33) distinguishes three groups of dictionary users: professional users, non-professional users, and the group relevant for this study—language learners. Variables such as native and second or foreign language, the level of language proficiency, and dictionary use skills have been reported to affect the L2 learner’s behavior when it comes to dictionary consultation. Thus, speaking of the effect of native language (L1), Ard (1982), for example, found that similarities between the students’ L1 and L2 contributed to more successful dictionary use in the L2 classroom. Nevertheless, the variable that is most frequently reported to affect the use of dictionary in L2 learning is the level of language proficiency. Research has shown that higher level learners tend to use dictionaries less but at the same time make more use of monolingual dictionaries and consult them more often while engaged in productive activities, such as writing, than their lower level peers (Battenburg, 1991).

When it comes to the use of different types of dictionaries in L2 education, the largest number of studies so far have focused on the use of monolingual over bilingual or bilingualised dictionaries. Empirical evidence suggests that language learners generally prefer bilingual to monolingual dictionaries (Atkins & Varantola, 1997; Baxter, 1980; Lew, 2004; Nesi, 2014; Tomaszczyk, 1979). As Lew (2015, p. 4) claims, “a native language equivalent is normally far easier to understand and process than a definition in the foreign language, however skillfully worded.” As for the use of monolingual dictionaries, the findings are inconsistent: while some studies report that these dictionaries are more preferred at advanced levels of L2 learning (Battenburg, 1991; Nesi, 2013), other authors (e.g., Lew, 2004) claim that even very advanced learners are still more fond of bilingual dictionaries. Monolingual dictionaries, however, seem to be more preferred by language teachers as they perceive them as higher quality resources than bilingual dictionaries (Boonmoh & Nesi, 2008).

Studies focusing on L2 learners’ dictionary use skills have revealed three common themes: L2 learners usually receive little training in these skills (Bae, 2011 in Béjoint, 1981; Hartmann, 1999; Nesi, 2013); obviously as a result of this, most learners fail to make efficient dictionary users (Chan, 2012; Hamouda, 2013; Nesi & Haill, 2002); and learners’ dictionary consultation skills can be improved by training (Carduner, 2003; Cote González & Tejedor Martínez, 2011). Certain studies also examine what problems learners face when consulting dictionaries. The findings show that the most common problems are related to inaccurate interpretation of polysemic word entries (Nesi & Haill, 2002; Nesi & Meara, 1994) and some authors report the lack of knowledge regarding the interpretation of grammatical information (Chan, 2012).

Activities initiating dictionary consultation are usually perceived and reported as very broad activity types. Müller-Spitzer (2014), for example, has found that the most common activities include text production (usually writing), text reception (i.e., reading), and text translation, basically a combination of production and reception. Nesi (2013) also states that dictionary use is typically classified as either receptive or productive, although dictionaries are also used for gaining knowledge, in the first place for learning new vocabulary. This view is also supported by Fuertes-Olivera and Tarp (2014), who say that user situations include production, reception, and cognition. In Béjoint’s (1981) study, respondents reported that they used dictionaries more frequently in the written than in the spoken medium. As already stated, the type of activity may be influenced by the level of L2 proficiency. Battenburg (1991), for example, reported that students with lower level proficiency used dictionaries mostly while reading and more advanced students opted for dictionary use in writing. In addition, Nesi (2000) noticed that the specific dictionary format may also affect the use of dictionary and specific types of activities.
She reports that learners tend to use mobile e-dictionaries more often for speaking and listening and prefer computer-based dictionaries while reading and writing at the computer (Nesi, 2000).

In recent years, due to the growing role of modern technologies, research attention has been directed toward the use of electronic or digital dictionaries (cf. Töpel, 2014). New research methods (also resulting from technological advances), such as eye-tracking and log files, have provided better insights into dictionary consultation processes, primarily into how users approach lexical searches and what kind of information they are mostly interested in. As far as L2 learning is concerned, a number of studies have focused on comparisons between traditional (paper) and digital dictionaries. Although some of these point to better results in completing language tasks and longer vocabulary retention when digital dictionaries are employed (Dziemianko, 2010; Laufer, 2000; Leffa, 1993, in Shizuka, 2003; Töpel, 2014), there are also those that report equal success when printed and digital dictionaries are consulted (Chen, 2010; Dziemianko, 2011, 2012; Koyama & Takeuchi, 2003). What all of these studies show quite consistently, however, is the fact that consultation is far quicker when digital tools are employed. Another advantage of digital-medium dictionaries reported in many of these studies is higher satisfaction of the user, that is, a more positive attitude toward these resources (Leffa, 1993, in Nesi, 2000; Töpel, 2014). Finally, as an addition to this list of advantages we can include the easy accessibility of digital dictionaries as many of these resources are nowadays in the form of online dictionaries, and, as Lew (2016, p. 293) observes, “the new digital-native generation of language learners are increasingly unwilling to pay for their dictionaries, expecting instead to get their dictionaries online for free.”

This brief review of research into dictionary use in L2 education shows that the area is still under-researched and that many of the findings are contradictory, leaving therefore plenty of room for conducting further research. This conclusion, together with the sociological phenomenon described in the Introduction and referring to the new generation of young people whose lifestyle habits show new patterns of behavior in general, offers the framework for the present research into the dictionary use habits of millennials as foreign language learners. Pertaining to this general topic, the study described in this article addresses the following research questions:

**Research Question 1:** How often do millennials use dictionaries and what types of dictionaries dominate?

**Research Question 2:** What are the reasons for dictionary consultation?

**Research Question 3:** What type of information do millennials look up in dictionaries?

**Research Question 4:** What difficulties do they encounter?

### Research Method

As noticed by some researchers (e.g., Nesi, 2013; Tarp, 2009), the most common approach for gathering data on dictionary consultation is the questionnaire survey. Certain shortcomings of the method, however, have been emphasized, such as possible differences in the terminology and the way dictionary use is perceived and conceptualized by questionnaire designers and respondents (Tarp, 2009). To overcome this potential problem, this study employed a mixed-method approach, combining a questionnaire and interviews.

### Quantitative Data Collection and Analysis

For gathering quantitative data, a 51-item questionnaire was designed. The instrument was partially modeled after questionnaires used in similar studies (Béjoint, 1981; Hamouda, 2013) and consisted of two parts. The first part included demographic information (the participants’ age, sex, faculty, study year, study program, the number of years studying English, English course attended at that time, and self-perceived English proficiency). The second part focusing on dictionary use consisted of five sections, but for the purpose of this study the first four sections are taken into consideration. These four sections addressed the following issues: (a) the types of dictionaries and the frequency of their use, (b) the most frequent reasons for dictionary consultation, (c) the types of information looked up, and (d) difficulties encountered in dictionary consultation. In the first three sections, the participants’ responses were based on a 4-point Likert-type scale (1 = never, 2 = rarely, 3 = sometimes, 4 = always). This even-number scale was chosen following Allen and Christopher (2007), who report that in odd-number scales respondents tend to choose the middle (neutral) item without analyzing other options. The fourth section included a dichotomous scale (agree–disagree). The questionnaire design process involved five university teachers who have considerable experience in teaching English to both philology and non-philology students. The first version of the instrument was piloted on two groups of undergraduates and based on their responses and comments, several items were reformulated. The final version of the instrument was checked by Cronbach’s alpha and the obtained coefficient of 0.92 confirmed its reliability.

The questionnaire was administered in the spring semester of the academic year 2017/2018 to 705 undergraduates studying at 11 faculties of (The authors’ affiliation). There were 350 male and 355 female respondents, whose age spanned from 18 to 28, which means that the oldest respondents were born in 1990 and that all the research participants were indeed millennials. Prior to the questionnaire administration, verbal consent was obtained from the participants. The data were analyzed using the software package SPSS Statistics 20.
Table 1. The Use of Different Types of Dictionaries.

| Item                                | N   | M   |
|-------------------------------------|-----|-----|
| General English–English dictionary  | 703 | 1.70|
| General Serbian–English dictionary  | 702 | 2.25|
| General English–Serbian dictionary  | 697 | 2.27|
| Specialized English–English dictionary | 698 | 1.51|
| Specialized Serbian–English dictionary | 700 | 1.63|
| Specialized English–Serbian dictionary | 694 | 1.65|
| Paper dictionary                     | 693 | 1.85|
| E-dictionary                         | 699 | 2.51|
| Online                               | 702 | 3.12|
| Mobile app                           | 705 | 2.13|

Qualitative Data Collection and Analysis

For a better and deeper interpretation of the responses obtained in the questionnaires, semi-structured interviews were conducted following the quantitative survey. Twenty volunteers were randomly chosen at this stage. The audio-recorded interviews that lasted approximately 8 to 10 min were conducted in Serbian and transcribed afterward. The verbatim transcribed data were analyzed by the process of deductive category application of content analysis approach (Mayring, 2000). For this purpose, no particular content analysis software was applied. The researchers manually annotated the content with a set of coding categories. Following the research questions and the questionnaire sections, a system of four categories (Dictionary types, Reasons of use, Types of information searched, and Difficulties encountered) was established prior to the analysis. The analysis implied careful readings and examinations of the transcribed texts with identifying and highlighting the passages that could be coded with a specific category. The interviews were first reviewed by each researcher individually and afterward the researchers worked together comparing and discussing the identified passages and classifying them into the established system of categories. This joint analysis was conducted to ensure as complete and accurate identification of codes as possible.

Results

The results are presented in four subsections, following each of the four research questions. Each subsection starts with quantitative data and then presents relevant qualitative findings. As for the quantitative data, for interpreting the frequency of dictionary use on the 4-point scale, we applied the following system: 1 to 2 = low, 2 to 3 = moderate, and 3 to 4 = high frequency.

The Use of Different Dictionary Types

The participants’ answers regarding the use of different types of dictionaries are presented in Table 1.

As the mean scores show, the lowest value (1.51) is recorded in the use of specialized monolingual dictionaries and rather low values are also observed in the use of other specialized dictionaries as well as in the usage of general monolingual dictionaries. The results therefore suggest that monolingual dictionaries, of both specialized and of a general type, as well as specialized dictionaries in general, are least frequently used among the participants. On the contrary, the highest mean (3.12) is recorded in the use of online dictionaries, suggesting that they are the most widely used type of dictionary among the student population. As for other types of dictionaries, moderate use is observed in other types of digital dictionaries, such as e-dictionaries and mobile apps, as well as in bilingual dictionaries of general type.

Qualitative data offer a deeper insight into the quantitative findings and additionally support and explain them. Thus, regarding the use of specialized dictionaries, the qualitative data confirm that this is the type that is hardly ever used. Only two interviewees were found to ever use a specialized dictionary and it is the dictionary that their university language teacher recommended and that they use in their language course. As for the others, the interview data also explain the reason for the situation observed—students are not informed about their availability:

S5: I saw a specialised dictionary at my faculty for the first time, I hadn’t had an opportunity to even hear of specialised dictionaries, I mean, I had heard of a dictionary of medical terms; I was glad that I finally encountered it and that I could have such a dictionary related to my profession and that I didn’t have to use a general dictionary and that I could also consult a specialised dictionary and come up with solutions more quickly; it is good to have a specialised dictionary because if we search the net or use Google we get a wide picture whereas we need only something specific.

S2: Well, I did search for words from the field, but not a dictionary. I mean, I did search the field, but not a specialised dictionary as such. What I do is, I read some article on Wikipedia about the term I am learning (about).

S13: A specialised dictionary . . . I haven’t encountered something like that.

All interviewees say they prefer bilingual to monolingual dictionaries and most often report using online dictionaries. When asked which particular online dictionary they use, apart from two respondents who rely on Merriam-Webster (as recommended by the university teacher), most of the participants name Google Translate. In spite of its inaccuracy and unreliability (which all of them are well aware of and have experienced many times), students find this option most convenient as it is the fastest and an easily accessible tool, as explained by them:
S10: I can admit that I use it most frequently; it is somehow the fastest. Whenever I need something I can type it on my phone and find it, but I am aware that it is not quite correct; for example, we had to translate one word, but when you type in the whole sentence, it all becomes jumbled up and incorrect.

S20: Google translate because it is easiest for me, when I don’t know a word; it immediately associates me with Google translate.

S11: Well it is more practical.

S2: It is faster.

S1: Yes, it is convenient when I do something on the computer.

In cases they are not satisfied with the translation offered, many of the students proceed by searching Google, and if it is a subject-specific term they rely on Wikipedia.

S7: If I don’t find it in a dictionary, I look it up on the net through Google.

S7: If that is not working either, then I find some text on the internet containing that word, and try to understand it in that way.

S13: What I miss is an adequate word, what I would like to say, I am not sure that I have found it. I solve it by using Google, I would type in a word, and then go through what shows up.

S1: If I need some very specialised word, then no . . . not used in everyday speech but some older words.

As for paper editions of dictionaries, the majority of the interviewees report that they have a printed bilingual dictionary on a shelf at home but almost never use it and are not able to name its publisher.

**Information Most Often Checked**

This section starts with an overview of the quantitative data obtained from the participants’ responses to the third section of the questionnaire, which deals with the types of information most frequently checked by students, as presented in Table 3.

In comparison to the results in previous two subsections, the means span is somewhat smaller here, as the values range from 1.47 to 2.45. The highest values are attributed to searching for the spelling and the meaning of a word in a specific context, as well as to using a dictionary to find translation equivalents of a word and examples of how to use it in various contexts. In all other items, the frequency of use is smaller than 2, indicating that the respondents do not pay much attention to additional information, such as collocations, common errors, and differences between British and American English.

The qualitative data, on the whole, seem to be complementary to the quantitative findings, as none of the interviewees reports analyzing additional information when looking up an unknown word. In addition, what seems to give a better explanation of checking the meaning of a word...
in context, the item that scores highest in this subsection, is actually the students’ frequent reliance on Google Translate results, which very often, as they observe, does not make sense in the given context. It appears that this serious flaw of the Google Translate tool actually has a positive effect on the respondents, as they are more cautious about the context in which the term they are interested in appears. As one of the research participants reports,

S5: For instance, when one uses Google translate, if you type in there one sentence, it translates it so that it doesn’t make sense in our language or it finds some translation which is the most common one so we don’t get what we were looking for but some completely different translation, so then we have to use dictionaries, that is, especially to see how a particular word is used.

S10: Google translate cannot translate a word or a sentence in a given context, it can translate only word for word, so sometimes a lot gets pretty unclear. Then I use some other dictionaries.

**Difficulties in Dictionary Use**

The quantitative findings obtained in the last segment of the questionnaire are presented in Table 4.

### Table 2. Activities and Reasons for Consulting a Dictionary.

| Item                                                                 | N   | M   |
|----------------------------------------------------------------------|-----|-----|
| When I translate from Serbian into English                           | 704 | 2.69|
| When I translate from English into Serbian                           | 704 | 2.89|
| When I write in English                                             | 702 | 2.57|
| When I read in English                                              | 702 | 2.25|
| When I listen in English                                            | 700 | 2.02|
| When I speak in English                                             | 698 | 2.00|
| To confirm the meaning of a familiar word                           | 704 | 2.75|
| To find out the meaning of an unfamiliar word                       | 703 | 3.18|
| To check the spelling of a word                                     | 667 | 2.88|
| To check the pronunciation of a word                                | 702 | 2.10|
| To check whether I have guessed the meaning of an unfamiliar word   | 703 | 2.60|
| To check whether a word exists                                      | 701 | 2.02|
| To look up synonyms                                                  | 703 | 2.16|
| To find out the grammatical information (part of speech, singular/plural, different forms, etc.) | 703 | 1.77|
| When I am studying for my English exams                             | 700 | 2.63|
| In English class when I do not understand something                  | 700 | 1.88|
| In vocational classes or work                                       | 701 | 1.95|
| Some activities in English class require the use of a dictionary     | 700 | 2.02|

### Table 3. Types of Information That Are Mostly Checked in Dictionaries.

| Item                                                                 | N   | M   |
|----------------------------------------------------------------------|-----|-----|
| Spelling                                                            | 705 | 2.45|
| Pronunciation                                                       | 704 | 2.01|
| Meaning in context                                                  | 701 | 2.43|
| Translation equivalents                                              | 699 | 2.13|
| Information on common errors regarding the usage of a word          | 704 | 1.69|
| Collocations                                                        | 701 | 1.74|
| Information on the usage of words with a similar meaning            | 697 | 1.98|
| Differences between British and American English                    | 702 | 1.69|
| Pictures which accompany a definition                                | 703 | 1.54|
| Sentence examples of the usage of a word                             | 700 | 2.10|
| Different pronunciations of a word form                              | 702 | 1.80|
| The voice search feature of mobile or online dictionaries            | 701 | 1.84|
| Guide pages to the dictionary with the symbols and structures of the entries | 703 | 1.60|
| Dictionary appendices                                                | 704 | 1.47|
Table 4. Difficulties in the Use of Dictionaries—Descriptive Results (in Percentages).

| Item | I agree | I disagree |
|------|---------|------------|
| I do not understand the definition of an English word because my English is not good enough. | 28.5 | 71.5 |
| I do not understand the abbreviations in dictionary entries (such as [T], [C], and the like). | 57.0 | 43.0 |
| Even after I read the word usage examples I am not able to use that word independently. | 14.4 | 85.6 |
| I do not know the phonetic symbols so I cannot use a dictionary for learning pronunciation. | 43.6 | 56.4 |
| The fact that I know how to use a dictionary enables me to use it often. | 60.7 | 37.7 |
| I use different types of dictionaries without difficulty. | 61.3 | 38.7 |
| I understand all the information in a dictionary without difficulty. | 51.7 | 48.3 |
| I find the use of a dictionary very complicated. | 14.2 | 85.8 |
| I can assess whether a dictionary is good or not. | 45.1 | 54.9 |

Globally perceived, the students’ responses suggest that they do not face any serious problems when dealing with dictionaries and that they mostly consider themselves competent dictionary users. What they claim to be less competent for, however, relates to their ability to assess if a dictionary is of good quality or not. The only two items that more than a half of the participants claim to be less skillful at are interpreting abbreviations in the dictionary entries and the phonetic symbols.

The interview data confirm that abbreviations and phonetic symbols are most problematic for the students. They also reveal some additional problems that the participants in this research are occasionally faced with. Namely, what some of the interviewees also observe as a problem in using dictionaries is the waste of too much time. For some of them, dictionary consultations are time-consuming and they perceive this as a problem:

S4: Well for pronunciation, I am not sure really . . . I know some abbreviations, some I don’t know. I know adjective, adj. and similar.

S10: Time. It is time-consuming to find a word. I can’t solve that, only practice, when I use the dictionary all the time, then I already know roughly where some word is, and if I took some new dictionary, finding words would be a problem again.

S12: And when I use paper English-Serbian dictionary mostly to find a word, there are many, it takes more time.

Another problem described by the participants is the use of Google Translate and the inaccurate translation equivalents obtained there. This is a problem that all our interviewees report and some of them describe the ways in which they often try to solve this. Although some students turn to a dictionary, there are also those who still continue using the tool to work out the proper meaning of the word and in so doing, they offer very unusual and creative solutions:

S1: Well, not always, sometimes I’m not clear about it, then I try to reverse it, from English into Serbian, to check, so I often get something completely different.

S4: And even if it doesn’t find the meaning of a given word in English or Serbian, it finds it in another language, it recommends that language for translating, and that is how I check it.

Discussion and Implications

To gain a better insight into the EFL dictionary use habits of the millennial generation of undergraduates, this article addresses four research questions: what types of dictionaries are consulted most often, what are the reasons for dictionary consultation, what information dictionary users pay attention to, and what kind of problems they encounter while looking up a word.

In relation to the first research question, the overall findings indicate that online bilingual dictionaries dominate. The prevalence of bilingual dictionaries by language learners has been reported in a number of studies so far (Atkins & Varantola, 1997; Baxter, 1980; Lew, 2004) and in this respect the findings corroborate previous research. The preference for online dictionaries, on the contrary, is an expected result, as the participants belong to the generation described as regular and avid consumers of the digital world (Chicca & Shellenbarger, 2018). What qualitative findings reveal, however, is that the term “online dictionary” for these participants has a very broad meaning and implies various online resources and tools, usually very different from well-established (and trustworthy) online dictionary editions. The digital dependence of millennial students is also reflected in their referring to internet search engines and online encyclopedias rather frequently and prior to consulting a (learner’s) dictionary. This tendency has been evidenced by dictionary websites that record an increasing number of queries redirected from search engines (Lorentzen & Theilgaard, 2012, in Lew & de Schryver, 2014, p. 342).

Regarding the most frequent reasons for using a dictionary, the obtained findings are mostly in line with earlier research in the context of L2 education (Hamouda, 2013; Müller-Spitzer, 2014). The millennials participating in this study most frequently turn to a dictionary to find out the meaning of an unknown L2 term. Looking up an unknown word was also recognized as the most frequent reason for consulting a general monolingual dictionary in the recent and at the same time broadest survey of dictionary use up to
date (Kosem et al., 2018). Although the survey was conducted within the context of L1 dictionary use, this similarity in the type of most frequent dictionary usage activity, which in the aforementioned study was particularly observed among participants of a younger age, certainly points to a general habit of the young generation of dictionary users, irrespective of the context of use, that is, L1 or L2 word lookup situation. In addition, the participants in this study mostly use dictionaries when translating from English into their L1, in fact, the questionnaire findings suggest that these are mostly situations that relate to writing. From the interview data, however, we learn that dictionaries are consulted most often for the purpose of comprehending reading or listening input. This discrepancy between quantitative and qualitative findings might be explained by the respondents’ broad and very general interpretation of the questionnaire items. Writing, as empirically confirmed in Lew (2016), for example, is a challenging context of dictionary use and it might well be the case that the participants, being aware of this, provided the responses that were more of a general kind. On the contrary, the presence of the interviewer, who guided the participants through the interview and provided additional explanation regarding the questions, directed the respondents to more concrete situations, revealing that students actually use dictionaries more frequently in activities which involve the receptive skills. In addition, as the participants are university undergraduates, their searches, as we can see from the qualitative data, are often related to working out the meaning of specialized items. These searches, as we are informed from the findings, rarely rely on the use of specialized dictionaries and much more on general search engines. The tendency of using web search engines for solving lexical problems has also been reported by Kosem and associates (2018), leading thus to a general conclusion, as these authors observe, “if dictionaries as lexically-oriented reference tools are to compete with general search engines, then they should […] embrace modern technologies by offering truly digital tools for the benefit of the present and future users” (Kosem et al., 2018, p. 20).

The third research question focuses on the type of information that the participants make use of once they access a dictionary. Both the quantitative and the qualitative findings suggest that the students pay far less attention to information other than the meaning of an unknown term (and its spelling and pronunciation). Similar findings have been reported by other authors (Hamouda, 2013; Lew, 2016) who observe that today’s generations of language learners do not take full advantage of dictionary content. Indeed, information on a word’s synonyms, collocational use, or grammatical features does not attract much the attention of Serbian EFL learners. What they do pay attention to, as the quantitative findings show and the qualitative data corroborate, is the context in which the searched word appears. From the interview data, we learn that this attention to the use of a word in context can be related to the frequent use of the Google Translate option and common misinterpretations in translation due to the neglect of the context in which the word is given. As understood from the interviews, all of the participants have experienced problems of this kind and as a result have developed cautiousness in this respect. It appears, therefore, that the pitfall of using a digital translating tool has resulted in the users’ advancement in word reference skills.

Finally, concerning the problems faced in the course of dictionary use, the obtained results reveal that the students have difficulties in understanding abbreviations that mostly signal grammatical features of words. The same problem has been reported by Chan (2012). Another difficulty regards the interpretation of the phonetic symbols, which nearly half of our research participants admit to being ignorant of. However, as online resources today mostly include audio files with the pronunciation of words, this aspect, from the perspective of the digital dictionary user, appears less pertinent. What the millennials included in this study also see as a challenge, as described above, is the problem of polysemy, which has frequently been reported in the literature (Nesi & Haill, 2002; Nesi & Meara, 1994). This difficulty, as the qualitative findings show, becomes particularly obvious to the participants when consulting the Google Translate service. In these situations, as the findings show, many of the students turn to an online dictionary, while there are also those who seem so fond of this digital tool that they opt for some really unusual solutions, such as back translation, or L3 translation, for working out the proper meaning of a word.

The implications of this study are numerous and, generally speaking, address three different areas: L2 learning (in this particular case, the EFL setting), lexicographic practice, and dictionary-use research. As for the pedagogical implications, the study sheds light on the characteristic behavior of the new generation of language learners regarding their general approach to dictionary use. The results point to a great dependence of the students on various digital sources, many of which drive them away from established authoritative dictionaries and to online dictionaries of uncertain provenance and often questionable quality (Nesi, 2012). It is on EFL teachers, therefore, not only to implement digital resources such as online dictionaries and mobile apps more often in class, but also to warn learners of those unreliable tools and better still train them how to differentiate between good-quality and bad-quality resources. This should be done by introducing various hands-on activities related to proper word searches, because there is evidence that the millennial generation is fond of learning by doing (Noguera Fructuoso, 2015) and that activities including actual types of lexical problems are more successful than those based on dictionary structure and content (Lew, 2016). Finally, as this study has been conducted in a higher education context, the findings offer some implications to teachers of English for Academic Purposes (EAP) and English for Specific Purposes (ESP), as these are the language courses given in this setting. As observed from both
the qualitative and quantitative findings, the overwhelming majority of students are not in the habit of referring to specialized dictionaries and many of them are not informed that such dictionaries exist. As the subject-specific terminology is an important segment of these courses and there is empirical evidence that the use of specialized dictionaries enhances the students’ learning outcomes (Milić et al., 2018), EAP and ESP teachers should not neglect this dimension in the educational process.

Apart from the pedagogical implications, the present results, as already stated, have implications for lexicographic practices in creating and updating L2-learners’ dictionaries. Versatile digital dictionaries and other tools that accompany course books and other forms of teaching materials are highly needed, especially in bilingual versions, as this study, as well as many previous ones, has pointed to the learners’ strong preference for bilingual resources. To the best of our knowledge, at least referring to the EFL area, many such resources already exist, but in monolingual editions. Teaching material designers should therefore focus on creating more of these resources in bilingual forms, especially paying attention to so-called “small” languages, such as Serbian, for example, and making them thus available to a wider population of L2 learners. Moreover, as these findings show, and the literature on new millennium learners also highlights (Chicca & Shellenbarger, 2018), new generations are highly characterized by short attention span. This presents an additional challenge for digital dictionary creators to provide more resources that would offer quick and yet accurate information in look-up searches. This is by no means an easy task, as any simplification, as Lew (2016) observes, should be achieved without compromising the content.

Finally, from the perspective of dictionary-use research methodology, this study is important because it shows, as also pointed out by some researchers (cf. Nesi, 2013), that a questionnaire as a single method of collecting data might be insufficient and in some aspects even misleading. In our case, this is best illustrated by the difference in the researchers’ and the students’ perceptions of the phrase “online dictionary,” which would have gone unnoticed if the qualitative data had not been included. In this respect, one of the methodological implications of this study is that a mixed-method approach has to be applied in research of this type.

**Conclusion**

The purpose of this contribution is to explore and explain the present situation regarding the use of dictionaries in EFL education from the perspective of the new millennium generation as dictionary users. In this respect, the main limitations of the study refer to the scope of its participants, as the research included only one group of EFL learners—university students, and all coming from the same country—Serbia. As Nesi (2013) claims, dictionary use studies mostly include university students as participants, because this is the place where most of the research is performed, leaving thus little information on dictionary users in other contexts. Nevertheless, as there is preliminary evidence that the new millennium learners comprise a generation-wide phenomenon, that is, the term can be applied to all members of the generation (Pedró, 2006), we believe that certain generalizations in interpreting the study findings are possible. Overall, the present research shows that millennial EFL learners rely heavily on digital resources but do not make efficient users of these resources as they only pay attention to a small portion of the information these resources have to offer. Indeed, frequent use of technology does not necessarily imply digital competence and in this regard this study empirically supports the view that “digital competence is no longer linked to the access and use of technologies but also includes the capacity to benefit from them for life, work and learning” (Noguera Fructuoso, 2015, p. 52). This further implies that EFL specialists and educators need to set the development of digital competence as one of the goals of modern language pedagogy, particularly when it comes to dictionary usage skills. In addition, the present research sheds light on the new generation’s perception and understanding of the term “dictionary,” which for these learners includes the use of various translation tools and as such has a much broader, looser, and more vague meaning than it does for language professionals and researchers.

Taking into account that dictionary use is generally an under-researched area and that not much is known about the use of dictionaries in the digital environment, including here the context of EFL education, this study hopes to contribute to this generally recognized lack of research data. As the data extend to Serbian EFL millennial undergraduates only, we conclude with a call for more research on this topic in other locations and contexts to get a more thorough insight into millennials’ dictionary use habits and practices.

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