

Article

Usefulness of Digital Language Resources in Improving Native Language among Adults

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Abstract: Important keys to effective communication are language competences, which can be supported by using digital language resources. These usually assist the acquisition of a second language, despite their potential for improving one's native language. Our study was, thus, aimed at raising awareness about the possibilities of improving the native language of an adult population by using digital language resources for the Slovenian language. We conducted workshops, a survey and, partly, semi-structured interviews with 124 participants. We examined whether the perceived usefulness and ease of using digital language resources depends on age, education, self-assessed language proficiency, and experience with language training. The analysis revealed that self-initiative use of analogue language resources is related positively to using digital ones for seeking information, improving language use, as well as for study or work. Moreover, self-assessed proficiency in language was found to affect the perceived ease of using digital language resources. These findings may help language professionals support developing language skills by using digital language resources and preserving language in an adult population.

Keywords: digital language resources; native language; language improvement; perceived usefulness; perceived ease of use



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1. Introduction

Digital language resources represent an important role in improving language and developing an inclusive information society, where efficient communication is needed [1,2]. It is perceived that English is established as the main language of the global society and there are only a few most spoken languages; however, the issue of the native language is essential for the development of the global environment [3]. Native language proficiency was found to contribute to a higher sense of national identity and belonging to the host society [4]. It leads to linguistic diversity where people employ various communication strategies and rely on their receptive competence in multiple languages [5] along with using diverse range of language and communication technologies.

The European Commission promotes various initiatives aimed at increasing training in digital skills, modernising education across Europe, and harnessing digital technologies for more effective communication in relation to learning languages in nation states. The rich heritage of diverse languages and cultures in Europe is a valuable common resource to be protected and developed. Accordingly, researchers have examined language proficiency extensively (e.g., [6]), which was found to be key in achieving a common understanding among citizens of the European Union. In this vein, the Committee on Culture and Education of the European Parliament adopted a report on language equality in the digital age [7]. The report noted that multilingualism presents one of the greatest assets of cultural diversity in Europe, and, at the same time, one of the most significant challenges for the creation of a truly integrated EU, with 24 official languages and more than 60 regional and minority languages, in addition to migrant languages and sign languages.

The European Parliament has recognised the widening technology gap between well- and less-resourced languages, meaning that more than 20 European languages are in danger of digital language extinction. The Parliament therefore called on the Commission to develop strategies to facilitate multilingualism in the digital market, and defined the minimum language resources that all European languages should possess, such as datasets, lexicons, speech records, translation memories, and encyclopaedic content [7].

Language learning based on resources involves the reuse of available assets to support varied learning needs [8], such as language and text processing tools [9–11], automatic assessment systems for text difficulty [12,13], systems for measuring the complexity of a text [14] and online dictionaries [1]. While the concept of resource-based learning is not new, pre-digital environments have been constrained by how resources were created and distributed [15]. As comprehending the use of technology plays a crucial role in terms of online learning, language, and communication [16–18], digital information systems, such as the Web, continue to influence both the availability and use of resources [19]. These can be used either for native or second language learning and improving, especially out of the formal education process. According to the criteria for life-long learning, the improvement of a native language could become one of the key steps towards a developed society. In a developed society, which is also perceived as the information society, citizens should have access to ICT technologies in all age groups. As older persons are a growing demographic group in society, special attention for developing learning resources is needed for adult and older generations [20]. Policymakers in Europe have made some progress towards relevant programmes dealing with language equality in the digital age [7], and, due to societal changes, lifelong learning has also become a strategic objective [21]. Considering the advantages of developing the digital resources for improving one's native language, it is possible that language technologies can contribute to future European cross-border and cross-language communication, boost economic growth, social stability, and national culture [22]. What is more, the question of an increasingly ageing population was also found to be related to the popularity of online activities [23], where using digital language resources might take place as well.

For the purpose of this paper, we define as a native language one in which a person holds a significant proficiency and that person can have several native languages. Moreover, in order to be considered as a native speaker of a language, an individual must satisfy the one most salient criterion—have acquired the language in early childhood and maintained the use of that language [3,24]. Digital language resources are defined as “collections of language manuals (dictionaries, spellings etc.) and language collections (corpora, language databases) which are used on a daily basis by speakers for independent and efficient communication” [25]. In addition, digital language resources are the basis for the development of language technology, which is, further, used commonly for the development of computer tools and applications for learning languages. Users of digital language resources can perceive these as useful and/or easy to use. Perceived usefulness refers to the extent to which one believes that a learning system would enhance one's performance. On the other hand, the perceived ease of use refers to the degree that one believes using a learning system is effort free [26]. Contrary to digital language resources, their analogue predecessors are paper-based resources [27], such as dictionaries. These are defined in the current paper as “analogue language resources”.

Technology has high potential to provide support for learners in improving their language [2]. Its importance even increases when informal language learning is concerned. As a result, existing research into technology and language learning has focused on different perspectives of informal online learning with various learning systems. Namely, existing studies have either (a) deemed digital language resources to be used to learn a second language, but not for native language learning (e.g., [1,28]), while (b) examined language learning in children or students, but not adults (e.g., [1,28,29]), and (c) addressed the perceived usefulness and ease of use for various types of language learning systems, but not for digital language resources specifically (e.g., [30–32]).

Accordingly, the current study makes novel contributions to the literature by providing an insight into the use of digital language resources in an adult population for the improvement of a native language. Our primary aim was to examine whether the perceived usefulness and ease of using digital language resources is affected by age, education, self-assessed proficiency in language use, and experience with native language training. Additionally, we sought to examine the relationship between the intention of using digital language resources and experience with native language training after a formal education process. To ensure that the study participants ‘noticed’ what knowledge digital language resources could provide, a workshop was organised about existing digital language resources in Slovenia. Moreover, the relevance of the study also lies in the strategic objectives of the European Commission for increasing the digital literacy in a multicultural and multilingual global society within Europe [7], where the digital support for improving languages spoken by a smaller number of people, such as Slovene, plays an important role. Accordingly, the role of communication in the local environment is extremely important for wellbeing and building a safe community [33]. These findings may help communication experts and language professionals support developing language skills and the adult population to preserve their native language. Considering the goal of language equality in the digital age and societal changes going in hand with lifelong learning as a strategic objective, improving native language is becoming an essential goal in societal development.

2. Literature Review

Our study is built around the topic of digital informal learning and the perception of digital language resources. Existing research has focused primarily on using digital language resources for second language and foreign learning among students and children [1,28,29]. There are very few studies that focused on native and particularly minority languages, their e-learning and analysis, such as, for example, the Welsh language [34]. The characteristics of native language usage compared to second language usage were only examined within the context of Slovene speakers’ preferences for communication in online activities during second language learning [28]. Regarding perceived usefulness and ease of use, digital language resources were a subject of research, but within the context of second language learning (e.g., [30–32]).

The use of digital language resources was examined primarily within the context of second language learning. For instance, Trinder [1] examined the frequency and perceived usefulness of digital language resources for the acquisition of second language skills and attitudes towards technology use in a class. The findings revealed that the most frequent activities of students include using dictionaries, watching television and video clips, listening to music, and social networking. The findings indicate a clear preference for well-established time efficient media, such as online dictionaries.

However, with the emerging trends towards second language learning, there is a growing need to support native language development as well. The idea of “native language” proved to be a way of conceptualising and labelling a particular linguistic identity tied to a nation [24]. Moreover, language is viewed as an important vehicle, through which empowerment can occur in society [35]. With efficient communication in native language as an important competence, members of society will be more included and empowered for participation in a broader society. Even if learning a foreign language is a necessity with regard to the demands of the global market, strong language competencies in a native language provide the individual with stability and more competencies for foreign language learning (e.g., [36]). As recent trends point to the importance of the life-long learning of languages outside and beyond formal schooling, the question arises as to how technology could support native language development in an adult population.

Existing research has focused mainly on self-directed learning and digital technology usage in continuing professional education, and not specifically on native language development [37,38]. Namely, Cervero and Daley [37] examined Continuing Professional Education (CPE). They identified CPE as a complex process that should adapt to adjust-

ments and ensure interdisciplinary, technologically sophisticated programmes linked to professional practice. Another study [38] explored the effects of digital and mobile technologies on professional education in terms of adult learners. The study was focused on the perception of self-directed learning, and identified digital and mobile resources as an important support for this kind of learning for health and human service professionals.

According to Steel [39], in learning for the future, it is crucial to partner with students to build a picture of emerged technology practices beyond classrooms and institutions. The digital inclusion of all segments of society could be the prerequisite for the development of society and a digital market. As perceived usefulness and ease of use are theorised as influential in the decision to use information technology [26], they are also identified as important aspects of technology-based solutions for improving the language. Existing studies [30–32] on the perceived usefulness and ease of using digital language resources focused primarily on various types of language learning systems and their benefits.

For instance, Nesi [32] described the effects of computer technology on dictionaries for language learners in terms of usefulness when considering various types of electronic dictionaries for English learners. The author found many useful advantages for using electronic technology, such as faster look-ups, a variety of search routes, the inclusion of more audio-visual elements, interactivity and ease of use. On the other hand, expensive hand-held dictionaries, the quality of information, and potential marketing purposes were identified as disadvantages. The previous study [30] examined the effects of participants' perceived ease of use, usefulness, and other variables in smartphone and green-building an English-learning based application by considering English reading and listening skills. The results revealed a correlation between receptive improvements for the high-achievement group and the ease of using the application. Likewise, Varantola [31] discussed the potential of dictionaries and suggested improvements in their usability. Bilingual dictionaries were often found to be understood as conversion tables with a uniquely defined meaning, hence, the dictionaries should not be regarded as stand-alone products, but rather search chains from different collections. Regarding monolingual dictionaries on the other hand, the author mentioned a lack of contextual information, as users have different knowledge backgrounds. Thus, a more user-friendly solution was suggested based on hypertext structure, adapting to the specific needs of users and their various competences.

3. Methodology

According to the literature review, there is a lack of studies that would examine using digital language resources in an adult population for the improvement of a native language. While digital resources have mostly been examined for second language learning among youngsters and usefulness was mostly measured for digital resources for second language learning, our research aims to fill this gap. Thus, the following research questions were set:

RQ1: Is there a statistically significant relationship between the mode of post-institutional language training and the intention of using digital language resources?

RQ2: Is there a statistically significant effect for the following variables on the perceived usefulness of digital language resources?

- Age
- Level of education
- The self-assessment of proficiency in language use
- The number of years that have passed since institutional language training
- The mode of post-institutional language training

RQ3: Is there a statistically significant effect for the following variables on the perceived ease of using digital language resources?

- Age
- Level of education
- The self-assessment of proficiency in language use
- The number of years that have passed since institutional language training
- The mode of post-institutional language training

3.1. Participants

The sample for the current study was recruited at six workshops from various geographic regions across Slovenia. Accordingly, 124 attendees of the workshops participated in the quantitative part of the study. After data screening, 31 units were removed due to incomplete or missing data, and an additional 9 units were excluded from the analysis due to Slovene not being their first language. Hence, a sample of 84 participants was included in the analysis. On average, they were 38 years old, with more females (65.5%) than males (34.5%) participating. Regarding education, the majority finished secondary school (46.4%), followed by those with a graduate education (28.6%). Out of these, 18 participants were conveniently involved in the qualitative part of the study. Nine participants (50%) were males and nine (50%) were females. Their ages ranged from 18 to 73.

3.2. Compliance with Ethical Standards

Before the beginning of the study, The Institutional Review Board (IRB) of the Faculty of Arts at the University of Maribor, Slovenia, reviewed and approved the study. Likewise, the ethical Standards of the 1964 Helsinki Declaration and its later amendments were respected when planning and conducting the study. Informed consent was obtained from all participants prior to inclusion in the study.

3.3. Procedure and Instruments

A mixed-methods approach was applied, as a survey and a semi-structured interview were used. Accordingly, the procedure of the study was threefold:

1. Assessment phase 1
2. The workshop for digital language resources
3. Assessment phase 2

Assessment phase 1 included collecting data with a survey questionnaire. It contained three sections: (a) The demographic section, (b) the language background, and (c) the characteristics of using the digital language resources.

The demographic section was comprised of questions about gender, age, level of education, socio-economic status (e.g., employed person), and the geographical region of origin (e.g., Steiermark).

The section on the language background included questions on Slovene being the first or the second language, a self-assessment of proficiency for using the Slovene language, as well as the number of years that had passed from the last contact with the Slovene language in a formal education process. The self-assessment of proficiency for using the Slovene language was measured with one Likert type question, where answer options ranged from 1 = "very bad" to 5 = "excellent". In addition, in this section, one question measured whether participants had refined their proficiency in language use non-formally and intentionally after the conclusion of the formal education process. According to Sockett [40], non-formal learning means "the use of professionally produced learning materials in a non-academic context", which may lead to intentional learning [1,41], where users were found likely to use online tools (e.g., dictionaries) [1]. In line with that, six question items were provided, where participants were asked whether they had been training their knowledge self-initiatively or professionally, either by attending language workshops physically or online. Concurrently, participants were asked whether they used analogue or digital language resources, or if they teach the Slovene language.

The section on characteristics for using the digital language resources covered questions about familiarity with digital language resources, as well as the regularity and the

intention of using the digital language resources. Additionally, one Likert-type question was applied from the related study of informal learning [1] (p. 403), particularly about the perceptions of usefulness for digital language resources for “the development of language competencies (reading, writing, speaking, listening, communicative competence, vocabulary, grammar, pronunciation, and business language)”. Accordingly, six question items were provided, ranging from 1 = “not useful at all” to 5 = “very useful”. Familiarity with digital language resources was measured with one Likert-type question containing a list of the eight most widespread digital language resources in Slovenia, e.g., <https://fran.si> (accessed on 7 January 2022), etc. The answer options ranged from 1 = “do not know at all” to 5 = “know very well”. According to Holzinger, Searle, and Wernbacher [42], previous exposure to technology plays a crucial role when its acceptance is in question. The regularity of use was measured with one additional Likert-type question for the same list of digital language resources, where answer options ranged from 1 = “never” to 5 = “very regularly (at least once a day)”. Similarly, the intention of using digital language resources was measured with one Likert-type question, providing five question items, where the answer options ranged from 1 = “never” to 5 = “very regularly (at least once a day)”. An item example of the question item: “I use digital language resources for entertainment”.

The workshop was aimed at educating adults about the existence and features of digital language resources for the Slovenian language. In the beginning, the participants were acquainted with the aim of the workshop. Afterwards, common examples of issues in everyday language use were presented by the lecturer, and a discussion was held. Then, the lecturer introduced various types of digital language resources, e.g., dictionaries, synonyms, language corpora, etc. Finally, participants practiced using these resources individually. Altogether, the workshop lasted one hour, and the lecturer was the same for all the workshops. The workshop was organised at various locations across Slovenia, where six workshops were organised altogether.

Assessment phase 2 comprised data collection with the survey questionnaire and the semi-structured interview questionnaire. The survey questionnaire was intended to collect data on (a) perceived usefulness and (b) perceived ease of using digital language resources. The theoretical concepts are based on the standard technology acceptance model (TAM) [26], where (a) the perceived usefulness means the extent to which people believe that using a particular system would enhance their job performance and (b) the perceived ease of use is defined as the extent to which people believe that using this particular system would be free of effort. Although the proposed theory refers to a particular system, the current study applies the theory on various digital language resources with reference to the previous study [43], where the authors considered a general approach and tested the intention of using clinical information systems without focusing on a specific system. Consequently, the questionnaire in our study was adapted according to the Davis’ model [26] by considering the context of digital language resources. Additionally, the study by Melas et al. [43] was considered with regard to its general approach. In this vein, for each of the two variables, six question items were provided, ranging from 1 = “extremely likely” to 7 = “extremely unlikely”. An item example for perceived usefulness is: “Using digital language resources would enable me to accomplish tasks more quickly.” An item example for perceived ease of use is: “It would be easy for me to become skilful at using digital language resources”.

The semi-structured interview questionnaire was used to gain an insight into the reasons for the actual use of the digital language resources, as well as the perceived usefulness and the ease of using digital language resources. The interviews were conducted face-to-face.

3.4. Data Analysis

Descriptive statistics were used to analyse the sample characteristics. For the RQ1, a chi square test was used to examine the relationship between a nominal and an ordinal variable. For the RQ2 and RQ3, nonparametric statistics were used, due to the ordinal nature of the data and their non-normal distribution [44]. The normality of data was tested

with the Kolmogorov–Smirnov test. The Mann–Whitney U test was applied to inspect the differences between two groups of an independent variable on a dependent variable. The Kruskal–Wallis H Test was used in case of the inclusion of three groups of an independent variable. The analyses were conducted with the IBM SPSS Statistics 22.0.

Interview transcripts were analysed with a two-step content analysis. First, every interview was transcribed verbatim and read at different times. Second, the coding process followed, where the concepts were finally defined and integrated into a meaningful conceptual framework [45]. In the presentation of the interview findings, we coded participants' comments as follows: M = male, F = female, age (numerical value) [28].

4. Results and Findings

4.1. RQ1: Relationship between Mode of Post-Institutional Language Training and Intention of Using Digital Language Resources

A chi-square test was performed to inspect the effects of the modes of post-institutional language training and the intention of using digital language resources. As various modes were included, a statistical analysis was performed for each mode separately.

(a) Self-initiative attendance at the workshop: The analysis revealed no significant differences between self-initiative attendance and non-attendance at the workshop for all five types of intention of using digital language resources, $p > 0.05$.

(b) Attendance at the language workshops professionally: According to Table 1, the analysis demonstrated significant differences between attendance or non-attendance at the workshop professionally for entertainment, $\chi^2(3) = 9.03, p < 0.05$. The chi-square test revealed there were more of those who attended the language workshops professionally and rarely used digital language resources for entertainment (9.52%) compared to those who attended these workshops and used digital language resources regularly for fun (4.76%). Moreover, there were more of those who did not attend the language workshops professionally and never used digital language resources for fun (45.24%) compared to those who were using them at least rarely (33.33%). For other types of intention of using digital language resources, we found no significant results: $p > 0.05$.

According to the semi-structural interview, using digital language resources for entertainment was found in only one case: "Sometimes also for fun, when we talk with friends and someone does not know how to write something, and so a debate develops." (M, 20).

(c) Self-initiative attendance at an online workshop: No significant relationship was found between the self-initiative attendance at the online workshop and any other type of intention of using digital language resources: $p > 0.05$.

(d) Attendance at an online workshop professionally: Likewise, we found no significant relationship between attendance of an online workshop professionally and all five types of intention of using digital language resources: $p > 0.05$.

(e) Self-initiative use of analogue language resources: Table 2 shows the results of the chi-square test, where significant relationships were found between the self-initiative use of analogue language resources and four types of intention of using digital language resources, except for entertainment. According to Table 2, there is an evident pattern in the relationship between both of the above-mentioned variables. There are more people who use analogue language resources on their own initiative, and concurrently use digital language resources for various types of intention, except for entertainment, than those who use digital language resources, but concurrently do not use analogue language resources. For instance, more of the respondents who use analogue language resources on their own initiative, also rarely, occasionally, or regularly, use digital language resources for seeking information and improving general and professional language use, than those who do not use analogue language resources.

Table 1. A chi-square comparison table for participants’ professional attendance or non-attendance of language workshops with various types of intention.

Intention of Using Digital Language Resources ¹	Attendance at Language Workshops Professionally				χ^2 (3)	<i>p</i>	
	No		Yes				
	<i>n</i>	%	<i>n</i>	%			
Seeking information	Never	12	14.29	1	1.19	7.63	0.05
	Rarely	17	20.24	3	3.57		
	Occasionally	22	26.19	4	4.76		
	Regularly	15	17.86	10	11.90		
Improving general language use	Never	18	21.43	1	1.19	7.10	0.07
	Rarely	25	29.76	6	7.14		
	Occasionally	17	20.24	6	7.14		
	Regularly	6	7.14	5	5.95		
Improving professional language use	Never	23	27.38	4	4.76	1.59	0.66
	Rarely	22	26.19	7	8.33		
	Occasionally	15	17.86	4	4.76		
	Regularly	6	7.14	3	3.57		
Using for learning, study, or work	Never	12	14.29	0	0	6.40	0.09
	Rarely	12	14.29	7	8.33		
	Occasionally	16	19.05	3	3.57		
	Regularly	26	30.95	8	9.52		
Entertainment	Never	38	45.24	6	7.14	9.03	0.03 *
	Rarely	17	20.24	8	9.52		
	Occasionally	7	8.33	0	0		
	Regularly	4	4.76	4	4.76		

* <0.05. ¹ Rarely stands for “less than once a month”, occasionally for “one to three times a month” and regularly for “at least once a week”.

Moreover, when comparing the occasional and regular use of digital language resources among those who do not use analogue language resources, there are more people who use digital language resources regularly (14.29%) than occasionally (4.76%) for the intention of learning, study, or work. The same pattern is the case for using digital language resources among those who also use analogue language resources. On the contrary, among users of analogue language resources, there are more of those who use digital language resources occasionally than regularly for the intention of improving general and professional language use, while it cannot be stated for seeking information, where the proportions of those who use digital language resources occasionally and regularly are the same.

The reasons for the occasional and regular use of digital language resources for the above-mentioned intentions are explained by the answers of intentions in the semi-structural interview questionnaire. Among 23 different intentions, the most frequently given answers relate to writing texts, understanding the meaning of words, and seeking synonyms. The explanation of the latter is best summarised by the following statements: “I use them for writing texts and creating books, it is necessary. I use them because I want to perfect my knowledge. It benefits me in all areas, at work and for fun.” (F, 56). Another explanation concerns the understanding of words: “I use them if I run out of words. Sometimes I look for a word and do not remember it or I remember it in English, but not in the Slovene language. Then I also search for synonyms.” (F, 26). The latter sentence

is also an indicator of the premise that the native language is sometimes subordinate to English and, as such, is losing its understandability.

Table 2. Chi-square comparison table of participants' self-initiative use and non-use of analogue language resources with various types of intention.

Intention of Using Digital Language Resources ¹		Self-Initiative Uses of Analogue Language Resources				χ^2 (3)	<i>p</i>
		No		Yes			
		<i>n</i>	%	<i>n</i>	%		
Seeking information	Never	11	13.1	2	2.38	11.73	0.008 *
	Rarely	7	8.33	13	15.48		
	Occasionally	9	10.71	17	20.24		
	Regularly	8	9.52	17	20.24		
Improving general language use	Never	15	17.86	4	4.76	14.94	0.002 *
	Rarely	10	11.9	21	25		
	Occasionally	8	9.52	15	17.86		
	Regularly	2	2.38	9	10.71		
Improving professional language use	Never	18	21.43	9	10.71	11.64	0.009 *
	Rarely	9	10.71	20	23.81		
	Occasionally	4	4.76	15	17.86		
	Regularly	4	4.76	5	5.95		
Using for learning, study, or work	Never	11	13.1	1	1.19	16.23	0.001 *
	Rarely	8	9.52	11	13.1		
	Occasionally	4	4.76	15	17.86		
	Regularly	12	14.29	22	26.19		
Entertainment	Never	23	27.38	21	25	4.88	0.181
	Rarely	7	8.33	18	21.43		
	Occasionally	3	3.57	4	4.76		
	Regularly	2	2.38	6	7.14		

* <0.05. ¹ Rarely stands for "less than once a month", occasionally for "one to three times a month" and regularly for "at least once a week".

(f) Teaching language: The analysis revealed statistically significant differences between teachers of language, and those who are not teachers, when using digital language resources for seeking information, χ^2 (3) = 7.85, $p < 0.05$. As can be observed in Table 3, a further analysis revealed that the majority of those who do not teach language occasionally use digital language resources for seeking information (25%), while the same proportion of teachers of language used these resources for the same intention rarely (9.52%) and regularly (9.52%). No significant results were found for other types of intention for using digital language resources $p > 0.05$.

4.2. RQ2: Effects on Perceived Usefulness of Digital Language Resources

When inspecting the effects on the perceived usefulness of digital language resources, we examined the effects of (a) age, (b) level of education, (c) the self-assessment of proficiency in language use, (d) the number of years that had passed from institutional language training, and (d) the mode of post-institutional language training.

Table 3. Chi-square comparison table of participants, teaching language or not, with various types of intention.

Intention of Using Digital Language Resources ¹	Teaching Language				χ^2 (3)	<i>p</i>	
	No		Yes				
	<i>n</i>	%	<i>n</i>	%			
Seeking information	Never	13	15.48	0	0	7.85	0.049 *
	Rarely	12	14.29	8	9.52		
	Occasionally	21	25	5	5.95		
	Regularly	17	20.24	8	9.52		
Improving general language use	Never	18	21.43	1	1.19	6.78	0.08
	Rarely	23	27.38	8	9.52		
	Occasionally	16	19.05	7	8.33		
	Regularly	6	7.14	5	5.95		
Improving professional language use	Never	23	27.38	4	4.76	6.89	0.08
	Rarely	23	27.38	6	7.14		
	Occasionally	10	11.9	9	10.71		
	Regularly	7	8.33	2	2.38		
Using for learning, study, or work	Never	10	11.9	2	2.38	3.39	0.34
	Rarely	16	19.05	3	3.57		
	Occasionally	15	17.86	4	4.76		
	Regularly	22	26.19	12	14.29		
Entertainment	Never	37	44.05	7	8.33	4.45	0.22
	Rarely	17	20.24	8	9.52		
	Occasionally	4	4.76	3	3.57		
	Regularly	5	5.95	3	3.57		

* <0.05. ¹ Rarely stands for “less than once a month”, occasionally for “one to three times a month” and regularly for “at least once a week”.

First, the effect of age on perceived usefulness of digital language resources was analysed with the Kruskal–Wallis H test. Participants were classified into three age groups: (1) Aged between 19 and 21, (2) aged between 22 and 25, and (3) aged 26 or older. No significant effect was found, $p > 0.05$.

To inspect the effect of the level of education, three groups were created, where education Group 1 included participants with elementary, vocational, and secondary school education, Group 2 consisted of participants with the first Bologna study level or older equivalent, and Group 3 included participants with the second Bologna study level, older equivalent or higher level. The results of the Kruskal–Wallis H test revealed no statistically significant difference in the perceived usefulness of digital language resources, $p > 0.05$.

Regarding the effect of the self-assessment of proficiency in language use, the Kruskal–Wallis H test showed no significant difference in perceived usefulness of digital language resources, $p > 0.05$. Likewise, we found no significant difference in the perceived usefulness of digital language resources when it came to the number of years that had passed since the institutional language training, $p > 0.05$.

Moreover, we also examined if there was an effect in the number of years that had passed since institutional language training. The results of the Kruskal–Wallis H test showed no statistically significant difference in the perceived usefulness of digital language resources, $p > 0.05$.

Finally, the effect was analysed of the various modes of the post-institutional language training on perceived usefulness of digital language resources. The analysis with the Mann–Whitney U test revealed no significant effects of any mode of training, $p > 0.05$.

The reason for no significant effects of age and level of education on perceived usefulness can be due to different needs that depend on individuals and their type of work. This can be explained by answers from the semi-structural interview, where two interviewees from different age groups and levels of education similarly perceived digital language resources as useless for them, namely “Yes, they would be useful, but probably not for me. However, they would be useful if I needed them. Maybe if I had to run a meeting or a lecture, but I probably will not have to.” (F, 76) and “Not useful for me. I do not need to write grammar correctly at work, only meeting minutes sometimes.” (M, 28).

4.3. RQ3: Effects on Perceived Ease of Using Digital Language Resources

Similarly, we examined the effects of (a) age, (b) level of education, (c) the self-assessment of proficiency in language use, (d) the number of years that had passed since institutional language training, and (e) the mode of post-institutional language training.

First, we inspected how age affects the perceived ease of using digital language resources. Again, participants were classified into three age groups as they were in RQ2. The Kruskal–Wallis H test revealed no significant effect of age on the perceived ease of use: $p > 0.05$. Likewise, no significant effect was found of education on perceived ease of using digital language resources: $p > 0.05$.

Next, we analysed how the self-assessment of proficiency in language use affects the ease of using digital language resources. The Kruskal–Wallis H test revealed a statistically significant difference in perceived ease of use, $\chi^2(2) = 6.24$, $p < 0.05$, with a mean rank perceived ease of use 51.75, 44.73, and 28.32 for the groups 1 to 3, respectively. Group 1 included participants who self-assessed their proficiency in language use as less than good, Group 2 included those who think they are good in language use, and Group 3 included those who think they are excellent speakers of the Slovene language. Pairwise comparisons using the Kruskal–Wallis H test ($p = 0.05$) revealed statistically significant differences between Groups 2 and 3, as well as between Groups 1 and 3. This indicates that excellent language users perceive digital language resources as less easy to use than good language users and those who think that their language use is less than good.

Moreover, we also investigated if there was an effect in the number of years that had passed since institutional language training. The Kruskal–Wallis H test showed no significant difference in perceived ease of using digital language resources, $p > 0.05$.

Finally, we analysed the effects of the various modes of post-institutional language training on perceived ease of using digital language resources. The Mann–Whitney U Test revealed no significant effects for any of the various modes of training, $p > 0.05$.

We sought for reasons for the significant effect of the self-assessment of proficiency in language use on the perceived ease of using digital language resources in the interview findings. Participants most frequently stated that they believed that the following aspects are crucial for feeling self-confident about their language use: The acquired education, experiences, and skills, obtained through writing, reading and speaking, as well as knowing grammar rules. On the contrary, they most frequently stated that feeling a lack of professional language knowledge leads them to feeling less confident about being proficient in language use. When we statistically examined whether they had already self-initiatedly used digital language resources before attending the workshop, we did not find any statistically significant effect. Accordingly, the interview findings may help us understand why those who feel less proficient in language use perceive digital language resources as easier to use compared to those who believe they are proficient language users once they got familiar with using digital language resources at the workshop. In line with the definition of perceived ease of use, it may be that less proficient language users found digital language resources more easily as effort free, due to their feeling of a wide range of opportunities for improving various language areas, such as reading, speaking, listening,

and writing. The reason might lie in the intersection between their language knowledge and the perception of ease of use [26], where less proficient language users are aware of their lack and are willing to put more effort in order to gain the benefits.

5. Discussion

The main objective of our study was to examine the use of digital language resources in adult populations who could be interested in native language development, which was considered as an important factor to prevent the danger of native language extinction in a multicultural global society. In a situation where the global population is getting older and where native languages play an important role in the development of individuals and society, the use and acceptance of ICT for language purposes are getting more and more important. Thus, our workshops, aimed at sharing knowledge about available digital language resources, were organised, and attendees participated voluntarily in a survey and semi-structured interviews. We examined the perceived usefulness and ease of using digital language resources in relation to age, education, self-assessed proficiency in language use and pre-experience with language training. In addition, intentions for using digital language resources were examined in relation to pre-experience with language training.

The analysis revealed three main findings. Firstly, self-assessed proficiency in native language use was found to have an effect on the perceived ease of using digital language resources. This indicates that those who perceive themselves less proficient in language use, perceive digital language resources as easier for use compared to proficient language users. It can be explained by the findings of the previous studies [1,28], where it was found that Slovenian young people are more engaged in receptive activities than interactive/productive activities online. Their receptive activities include reading social media comments in a second language, while the interactive/productive activities in their native language include writing short text messages, communicating with classmates, and writing e-mails [28]. In line with this, our findings may indicate that native language speakers, who do not perceive themselves as proficient native language users, may perceive digital language resources as being easy to use and, thus, may, consequently, also be interested in performing more interactive/productive activities in their native language online. It may be that speakers' awareness of available digital language resources, despite not perceiving themselves as proficient native language users, may be a trigger for more active native language use online, not only in business, but also in private communication. Namely, it was noted that conversations in the target language are expedited with digital dictionaries. However, our findings contrast with the findings of the previous study [31], where it was predicted that online dictionaries in the future would not be regarded as stand-alone products.

These findings can, further, lead us to understanding another finding of the current study, where it was found that using digital language resources for seeking information, improving general and professional language use, as well as learning, studying, or working, is related positively to the self-motivated use of analogue language resources. This may indicate that those who are already accustomed to utilising analogue language resources started using digital language resources, which is in line with the previous study [32], where it was found that the more information that an analogue language resource contains, the more time-consuming and harder it will become for learners to find exactly what they need to know.

Thirdly, we found no significant effects of age, level of education, the self-assessment of proficiency in language use, the number of years that had passed since institutional language training, and the mode of post-institutional language training on the perceived usefulness of digital language resources. This may indicate that perceiving digital language resources as useful may depend on other factors, which may be also very personal, and may vary to a greater extent across the population. This finding supports and complements the findings of the previous study [1], where perceived usefulness of digital language resources was measured for the acquisition of a second language. Namely, Trinder [1] found that

Austrian university students perceive online dictionaries as highly useful, while online grammars and language learning sites/courses are perceived as useful to a lower extent.

One limitation of this study is that it only included participants who attended the workshop for language development. Although the current study considered three different age groups, these results may vary across populations, as being motivated to attend such a workshop may indicate a high level of motivation for using digital language resources. The findings may have been different if the data of participants not attending the workshop would have been included, as a prior study [46] indicated that motivation to learn influences the learning outcome. The results reported in this paper are part of a larger study, where such research was conducted as well. However, reporting those results would have been out of the scope of the current paper. Another limitation stems from not measuring participants' motivation for post-institutional language training directly. Instead, attendance at the workshop was deemed as a decisional motivational factor. Regarding the motivation for using digital language resources, intrinsic motivation was not measured directly. Instead, according to TAM, the perceived usefulness and ease of use were deemed as motivational factors for using digital language resources, even if Holzinger, Searle and Wernbacher [42] suggested to be cautious about it, as participants may also be suspicious of the motivations behind such an experiment.

6. Conclusions

Our findings have both theoretical and practical implications. So far, the theoretical emphasis was mostly on the perceived usefulness of digital language resources for second language learning, or for other types of technologies supporting language learning. While the digital language resources as addressed in our study are known primarily to be the basis for the development of popular language technologies, such as computer and mobile applications for language learning [25], this study moves forward the research programme towards a broader consideration of digital language resources being an independent venue for improving native language.

Society can benefit from our findings, as they contribute to on-going debates about preserving languages spoken by a small number of people. While "one half of the world's population speaks one or more of the 23 'top' languages" and "the other half speak the remaining 7074" [47] the effects of these "top" languages might endanger speakers' awareness of linguistic purism. It dictates using words of native origin instead of foreign-derived ones. As there is a compelling motivation to understand the role of communication in the well-being of local communities, we can assume that the development of the global environment is rooted in the local community [33]. Moreover, the social capital of a society is closely connected to its effective communication.

As multilingualism presents one of the greatest assets of cultural diversity in a global society, it gives policymakers the duty of preserving all official languages and developing strategies to facilitate multilingualism in the digital market. Accordingly, adequate policies in Europe are needed to narrow the technology gap between well-resourced languages and less-resourced languages, to reduce the possibility of digital language extinction. Our study could bring certain insights into native language learning among adults in Slovenia, and, thus, allow for the understanding of certain measures that offer digital resources for adults. This could be applied to the language policies of different nations that struggle for maintaining native languages. Regarding the latter, the European Commission acknowledges that the Digital Single Market must be multilingual, whereas no common EU policy has been proposed to address the problem of language barriers, and some studies could support steps towards native language improvement with digital resources. Fulfilling the Barcelona objective [7] of enabling citizens to communicate well in their mother tongue plus two other languages would give people more opportunities to access cultural, educational, and scientific content in digital form, and to participate as citizens, in addition to accessing the digital single market.

Common European values such as cooperation, solidarity, and equality should mean that all citizens have full and equal access to digital technologies, which would not only improve European cohesiveness and well-being, but also enable a multilingual Digital Single Market. Additionally, speakers of lesser-spoken European languages, such as the Slovene language, should be able to express themselves in culturally meaningful ways, and create their own cultural content in local languages. Concurrently, during global cultural transformations, languages are being transformed constantly, making it even more important to provide speakers with digital language resources, allowing an unconstrained insight into the correct use of a native language. Moreover, as there is, among the population, not much evidence about the interest for improving the native language of small nations, there are needs for initiatives to support the regional languages and increase the digital literacy in a multicultural and multilingual global society for the adult population.

While this study considers a general approach, there are opportunities to explore specific digital language resources or focus on certain language-related workshops in future studies. It would be also interesting to conduct a workshop and a survey about digital language resources among those to whom the Slovene language is their second language and compare the results. As the current study addressed the Slovene language, spoken by only 2.5 million people within and beyond the country, it would also be beneficial to conduct the study on digital language resources for massively improving the use of native languages, and to be able to compare any differences that may have arisen from multicultural environments.

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