

HOW TO DEVELOP DIGITAL COMPETENCE IN PRE-SERVICE FL TEACHERS AT UNIVERSITY LEVEL

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The study aims to investigate pre-service teachers' readiness to use digital resources for foreign language teaching; to find out the pre-service teachers' attitudes to the development of their digital competence; to outline the ways of the development of the digital competence. A mixed research design was employed which involved 56 pre-service teachers of Kyiv National Linguistic University in 2019-2020. The quantitative research method was employed to assess the level of digital competence in the pre-service foreign language (FL) teachers using the Fisher Criterion. The qualitative research method allowed analysing and interpreting data of the experimental learning. The results showed that the pre-service FL teachers who were consulted by in-service teachers and used checklists for systematical assessment of their digital skills in progress had higher results than those who were only consulted by in-service teachers. Also, the qualitative method aimed to gain data about the pre-service teachers' attitudes to using digital resources for teaching foreign languages. For that purpose, a closed-ended questionnaire for the pre-service teachers was suggested as a data collection tool. It was determined that the digital competence is a necessary component of the teacher's professional competence which affects the success of the learning process. The digital competence can be developed in two areas: the Digital Resources Managing Area and Methodological Managing of Digital Resources Area. The criteria for critical selection, analysis and assessment of digital resources were singled out.

Keywords: digital competence; pre-service foreign language teachers; foreign language skills; university.

Introduction

The rapid development of digital technologies in the 21st century defines new requirements to the professional competence of foreign language (FL) teachers in Ukraine. Digital competence plays a vital role in the context of the modern paradigm of foreign language education that requires the widespread introduction of digital devices to individualise and intensify learning, increase the activity of FL learners, and motivate their learning through creating conditions for independent work and defining the individual learning trajectory in the digital and educational environment. The effectiveness of the implementation of these requirements depends on the development of digital competence of pre-service FL teachers and their ability to use digital technologies in the educational process.

It is obvious that the concept of digital technology is gaining importance and therefore needs to be clarified in terms of its application in the educational context. Thus, digital technologies in teaching and learning process can be considered as a general term that involves the following areas: digital devices (for example, personal computers, laptops, smartphones); digital resources (digital files, software, online services); data (Redecker, 2017, p. 90).

A number of studies have shown a vital need to integrate digital technology into the teaching and learning process of pre-service teachers. Amongst others, Reisoğlu and Çebi (2020) indicated that pre-service teachers should be trained for information and data literacy, communication and collaboration, digital content creation, safety and problem solving. The research results of Milutinović (2020) "revealed a positive impact of pre-service teachers' perceived usefulness, perceived ease of use and digital competencies in their intention to use digital technology in future teaching" (p. 373). In terms of enhancing digital competence of educators, Ghomi and Redecker (2019) specially focused on developing a self-assessment tool that measures how competent a teacher is (p. 541). Furthermore, constant experimenting (Stavytska, 2017; Lytovchenko & Voronina, 2020; Saienko, Lavrysh & Lukianenko, 2020; Saienko & Lavrysh, 2020; Terenko & Ogienko, 2020) with different digital technologies and studying their influence on the FL teaching and learning process proves the necessity to boost digital skillfulness of educators in the implementation of these technologies. All this indicates the necessity to systemically develop and assess digital competence in educators.

Nowadays digital competence and information and communication technology (ICT) are widely used technology-related concepts. According to Ilomäki, Kantosalo, and Lakkala (2011), “digital competence consists of 1) technical skills to use digital technologies, 2) abilities to use digital technologies in a meaningful way for working, studying and for everyday life in general in various activities, and 3) abilities to critically evaluate the digital technologies, and 4) motivation to participate in the digital culture” (p. 8). More extended definition of this term is given by Redecker (2017) who perceives educators’ digital competence as “ability to use digital technologies not only to enhance teaching, but also for their professional interactions with colleagues, learners, parents and other interested parties, for their individual professional development and for the collective good and continuous innovation in the organisation and the teaching profession” (Redecker, 2017, p. 19). So, digital competence is a cluster of digital knowledge, skills and abilities that improves teaching and learning process of all its participants.

The essence of digital competence of the pre-service FL teachers relies on an integrative *ability* of an individual to solve professional and methodological problems using digital technologies; to select and independently create educational digital resources, based on the complex interaction of *knowledge* about didactic possibilities of digital technologies, *awareness* and *skills* of their practical use for the formation of foreign language communicative competence and control of its formation in learners.

Until recently different frameworks of digital competence have been suggested. Mishra and Koehler (2006) have proposed TPACK framework that contains three teacher knowledge areas: technological, pedagogical and content knowledge. The suggested model shows the necessity of “technology integration at multiple levels: theoretical, pedagogical, and methodological” (p. 1017). Studying the digital competence of adolescents and parents, Soldatova and Rasskazova (2014) have developed a psychological model of digital competence including four components (knowledge, skills, motivation and responsibility) and four spheres (work with online content, communication, technical activity and consumption) (p. 65). Outlining the “DigCompEdu framework”, Redecker (2017) distinguishes six different areas in which educators’ digital competence contains 22 competencies. These areas focus on different aspects of educators’ professional activities: Professional Engagement Area; Digital Resources Area; Teaching and Learning Area; Assessment Area; Empowering Learners Area; Learners’ Digital Competence Area (Redecker, 2017, p. 15-16). The ICT Competency Framework for Teachers as a tool to guide pre- and in-service teacher training on the use of ICT across the education system has been suggested (UNESCO, 2018). It includes six aspects of a teacher’s professional practice (Understanding ICT in Education Policy; Curriculum and Assessment; Pedagogy; Application of Digital Skills; Organisation and Administration; Teacher Professional Learning) and three levels (Knowledge Acquisition, Knowledge Deepening, Knowledge Creation) (UNESCO, 2018, p. 8-9). Milutinović (2020) has identified digital competencies as: (a) competencies to support students for ICT use in class and (b) competencies to use ICT for instructional design (p. 373). Generalising the approach of determining the areas of digital competence, we share the point of view of those researchers who think that all frameworks involve technological and pedagogical aspects (Cabero-Almenara et al., 2020, p. 5).

Despite a wide range of studies, the issue of digital competence development remains open for research. The focus of our study is developing the digital competence of the pre-service teachers who are going to form foreign language communicative competence of students using digital educational technologies.

Accordingly, **the research questions of this paper** are as follows:

- 1) How can pre-service teachers’ readiness to use digital technologies for foreign language teaching be assessed?
- 2) What are pre-service teachers’ attitudes to the development of their digital competence?
- 3) What are the main areas of development of the digital competence in pre-service FL teachers?

Methods

Research design

A mixed research design was used in the current study. The quantitative research method was employed to assess the level of digital competence in the pre-service FL teachers using the Fisher Criterion. The qualitative research method allowed us to analyse and interpret data of the experimental learning. Also, this method was employed: to gain data about the pre-service teachers’ attitudes to using digital technologies for teaching foreign languages; to outline the ways of developing digital competence. For that purpose, a closed-ended questionnaire was suggested to the pre-service teachers.

Participants

The study involved 56 pre-service teachers of foreign languages, most of them females, who were studying in Kyiv National Linguistic University and volunteered to participate in this research. The participants took part in the survey during 2019-2020 academic year.

Instruments and Procedure. Four stages were used in this study.

Initially, two experimental groups of pre-service FL teachers were formed randomly. During the teaching and learning process in the first experimental group, the pre-service teachers used checklists for systematical assessment of their digital skills and abilities in progress. In addition, they were regularly consulted by their teachers. In the second experimental group, the pre-service teachers were only consulted by their teachers.

The levels of digital competence of the pre-service teachers were assessed in the *Managing Digital Resources Area* and the *Methodological Managing of Digital Resources Area* outlined on the basis of current research in this sphere (Cabero-Almenara et al., 2020, p. 5; Redecker, 2017) and are presented in Table 1.

Table 1. Managing Digital Resources Area and Methodological Managing of Digital Resources Area of digital competence of FL pre-service teachers

Knowledge & Awareness	Skills & Abilities
<i>Digital Resources Managing Area</i>	
how to critically select, analyse and assess digital resources for foreign language teaching	to select, analyse and assess digital resources for foreign language teaching
how to maintain the privacy of personal information; to create, store and share digital information safely; to select and use authentic information from the Internet for foreign language teaching	to maintain the privacy of personal information; to create, store and share digital information safely; to select and use authentic information following the rules of copyright from the Internet for foreign language teaching
<i>Methodological Managing of Digital Resources Area</i>	
how to use the methodological potential of synchronous communication technologies for forming foreign language communicative competence	to use the synchronous communication technologies for forming foreign language communicative competence
how to use the methodological potential of asynchronous communication technologies for forming foreign language communicative competence	to use the asynchronous communication technologies for forming foreign language communicative competence
how to use features and possibilities of digital technologies to create author's educational digital resources for forming foreign language communicative competence	to create author's educational digital resources for forming foreign language communicative competence

The *Managing Digital Resources Area* involves knowledge, awareness, skills and abilities related to critical selection, analysis and assessment of digital resources from the technical perspective. In addition, the ability of the pre-service FL teachers to create, store and share digital information securely is especially important. They need not only to understand the rules of safe use of digital technologies but also to follow these rules. Also, pre-service FL teachers should be able to select and use authentic information for foreign language teaching from the Internet. The *Methodological Managing of Digital Resources Area* contains knowledge, skills and abilities to implement the didactic possibilities of selected synchronous and asynchronous communication technologies into the foreign language teaching and learning process. In particular, this area includes a methodological set of skills: defining the short term and long term goals; formation of sub-skills (phonological, grammar, lexical), developing speaking, listening, reading and writing skills; choosing the appropriate type of assessment (formative, borderline and summative); creating individual, group and whole class learning activities; differentiating learners with the use of various digital resources.

The time needed to assess the levels of digital competence was about 60 minutes. The students were offered a pre-test at the beginning of the learning process for which they could get maximum 100 scores.

At the second stage, the pre-service FL teachers were focused on the knowledge and skills of the *Managing Digital Resources Area*. They were taught how to analyse and use digital technologies for professional purposes. In particular, they made the list of digital resources and differentiated them according to the sub-skills and skills that had to be developed and assessed in learners (for example, *WordArt* for developing lexical sub-skills, speaking and writing skills; *Zoom* for developing mostly listening, speaking; *Moodle* for developing and assessment of listening, reading skills). They also chose the criteria and analysed the technical aspect of digital technologies according to the selected criteria. Then, the pre-service FL

teachers practised how to create various activities for developing different sub-skills and skills in learners with the help of digital tools; how to create tests using the appropriate digital resources.

At the third stage, the aim was to identify the effectiveness of the learning process in both experimental groups focused on the development of digital competence in the pre-service FL teachers. The students were offered a post-test for which they could get maximum 100 scores. The results of a pre-test and a post-test were compared and processed using the Fisher Criterion.

Then, at the fourth stage, an anonymous questionnaire was used with the aim to define the pre-service teachers' attitudes to the development of their digital competence; the ways of development of the digital competence in pre-service FL teachers. This questionnaire contained 10 questions with variants of answers that could be chosen by the respondents. All the questions were closed-ended. The time needed to complete the questionnaire was about 7-10 minutes. The questions were as follows:

1. Do you think that digital competence is a necessary component of the teacher's professional competence which affects the success of teaching?
 - a) completely agree b) partly agree c) disagree
2. Do you apply your digital knowledge and skills when you deliver lessons at school during internship?
 - a) always b) often c) sometimes d) never
3. Is it necessary to divide digital resources into basic (for example, Moodle, Google Classroom) and auxiliary (for instance, WordArt) in planning the teaching and learning process?
 - a) yes b) no
4. What communication technologies do you prefer?
 - a) synchronous b) asynchronous c) both
5. In your opinion, what criteria for the critical selection, analysis and assessment of digital resources are important for you:
 - a) availability
 - b) facilities for using the digital tool for different target audiences
 - c) didactic functionality
 - d) appropriateness of the digital tool for the development of learner's particular skills
 - e) multilingualism
 - f) facilities for sharing the digital tool
 - g) convenience and ease of use
 - h) secure management of the digital tool (secure creation, storage and sharing of digital information)
6. You prefer digital technologies that can be used for _____. Several answers can be selected.
 - a) development of sub-skills (phonetic, lexical, grammatical)
 - b) development of the 4 main skills (listening, speaking, reading, writing)
 - c) formative, borderline and summative assessment
 - d) all the above
7. Do you take into account the individual characteristics of the learners using different digital technologies?
 - a) always b) often c) sometimes d) never
8. When using digital technologies, it is easiest for you to organise foreign language learning _____. Several answers can be selected.
 - a) individually
 - b) in pairs
 - c) in small groups
 - d) with the whole class
9. Do you follow the ethical and security rules of creation, storage and sharing digital information?
 - a) always b) not always
10. Do you find it necessary to create author's digital resources for educational purposes in order to satisfy different learners' needs?
 - a) yes b) no

Data Analysis

The process of data analysis contained three stages. First of all, a pre-test was offered to the pre-service FL teachers to define the level of their digital competence. Three levels were defined: high, average and low. After the experimental learning, post-testing was conducted. The results of the two tests were evaluated and compared using the Fisher Criterion. Then, a questionnaire was employed to find out: the pre-service teachers' attitudes to the development of digital competence; the ways of development of the digital competence in pre-service FL teachers. Finally, the data obtained were processed, interpreted and the conclusions were made. As the questionnaire was offered to the participants in the Google form application, the results were processed automatically, but interpreted by two teachers.

Results

In order to identify the effectiveness of the learning process focused on the development of digital competence, we outlined the levels of digital competence of the pre-service FL teachers. The *Low Level* of digital competence (60-74 scores) means that a pre-service teacher has limited knowledge of the didactic potential of digital technologies in foreign language teaching and makes serious methodological errors in the process of using digital technologies for the development of learners' foreign language skills and abilities. The *Average Level* of digital competence (75-94 scores) shows that a pre-service teacher is quite knowledgeable of the didactic potential of digital technologies in teaching foreign languages and in general uses them methodologically correctly for the development of learners' foreign language speaking skills and abilities. The *High Level* of digital competence (95-100 scores) indicates that a pre-service teacher has good knowledge of the didactic potential of digital technologies in foreign language teaching and uses them methodologically correctly for the development of learners' foreign language skills and abilities.

The results obtained from the pre-test demonstrated that at the beginning of the experiment, the levels of digital competence in both experimental groups were almost the same. After the experimental learning, the digital skills of the pre-service teachers in the first experimental group were developed significantly better than in the second experimental group. The overall results are given in Table 2.

Table 2. The levels of digital competence in the pre-service FL teachers

Dynamics in experimental groups	Pre-test			Post-test		
	High	Average	Low	High	Average	Low
Ex. Group 1	4 (14.3%)	11 (39.3%)	13(46.4%)	11 (39.3%)	14 (50%)	3 (10.7%)
Ex. Group 2	5 (18%)	9 (32%)	14 (50%)	6 (21.4%)	11 (39.3%)	11 (39.3%)

From Table 2 it is evident that in the first experimental group, where the students were consulted by educators and the checklists for systematical assessment of their digital skills in progress were used, only 3 (10.7%) pre-service teachers of foreign language showed a low level of digital competence. While in the second experimental group, where no checklists were applied, there were 11 (39.3%) such pre-service teachers. An average level was achieved in 14 (50%) students of the experimental group (1) in contrast to 11 (39.3%) students of the experimental group (2). Also, a high level of digital competence was demonstrated by 11 (39.3%) pre-service teachers in the first experimental group compared to 6 (21.4%) pre-service teachers in the second group.

For defining which group of pre-service FL teachers demonstrated a higher result of the development of digital competence, the Fisher Criterion was applied.

Two hypotheses were formulated:

H_0 : the percentage of pre-service teachers of foreign language who have increased the level of digital competence in the first experimental group is not more significant than in the second experimental group as reported by the experimental results.

H_1 : the percentage of pre-service teachers of foreign language who have increased the level of digital competence in the first experimental group is more significant than in the second experimental group as reported by the experimental results.

We considered that the pre-service teachers who gained high and average levels of digital competence achieved an "effect" during the experiment. And the pre-service teachers who achieved the low level of digital competence are considered as those who did not gain an "effect" during the experiment.

Using the formula $\varphi^*_{emp} = (\varphi_1 - \varphi_2) \cdot \sqrt{\frac{n_1 \cdot n_2}{n_1 + n_2}}$, suggested by Fisher (2017), let us calculate φ^*_{emp} , where φ_1 (89.3%), φ_2 (60.7%) (Table 3). With the help of the software (https://www.psychol-ok.ru/statistics/fisher/fisher_02.html), we calculated φ^*_{emp} automatically and got 2.578.

Table 3. The experimental results of developing digital competence in FL pre-service teachers

Experimental groups	“Effect” learning	“No effect” learning	Total
	Number of pre-service teachers (%)	Number of pre-service teachers (%)	
Ex. Gr. 1	25 (89.3%)	3 (10.7%)	28 (100%)
Ex. Gr. 2	17 (60.7%)	11 (39.3%)	28 (100%)

The received $\varphi^*_{emp} = 2.578$ is greater than 2.31. So, 2.578 is in the significance zone. Thus, only the hypothesis H_1 is accepted. This means that the percentage of pre-service FL teachers who increased the level of digital competence in the first experimental group was more significant than in the second experimental group in accordance with the experimental results. This result shows that the pre-service teachers who were consulted by educators and used the checklists for systematical assessment of their digital skills in progress (first experimental group) had higher results compared with the pre-service teachers of the second experimental group.

After the experiment, a questionnaire was offered to FL pre-service teachers to find out their attitudes to the development of the digital competence and the ways of development of this competence.

The survey of 56 pre-service FL teachers has shown that most of them (97%) consider that acquisition of digital competence is urgent for them and, according to their opinion, greatly influences the success of the learning process. Only a small percentage (3%) of the pre-service teachers partly agree with it.

On the whole, the pre-service teachers apply (86% “always” and 14% “often”) their digital knowledge and skills. Nowadays, it is practically impossible not to use such technologies. 93% of the pre-service teachers believe that it is necessary to divide all the digital tools into basic and auxiliary during the school internship in order to make their use more efficient. Only 7% of respondents do not find it necessary.

All the criteria have been considered important by the pre-service teachers. Among them, 30% of respondents chose the criterion of didactic functionality aimed at the formation of appropriate foreign language skills and abilities. 15% of respondents selected the availability criteria and convenience and ease of use. Fewer respondents chose the criteria of multilingualism.

70% of pre-service teachers preferred synchronous and asynchronous communication technologies. Both technologies are used in the learning process. Synchronous ones can substitute “live” communication in some way. They provide real-time communication of all learners, instant feedback. Asynchronous communication technologies give an opportunity to work at different times and locations. Different technologies allow the pre-service teachers to diversify learners’ training and achieve a greater learning effect.

When choosing the digital resources, most pre-service teachers (65%) gave preference to those which have a wide range of tools. Such resources allow students not only to develop skills and sub-skills, but also to realise assessment, to create crosswords, games etc.

In the respondents’ opinion, the individual characteristics of learners should be taken into account with the use of different digital tools. 20% of pre-service teachers do it permanently, 50% – often and 30% – sometimes. It is evident that satisfying the needs of all learners is not an easy task. Nevertheless, it is possible due to availability of a wide range of digital resources.

The results of our research show that with the help of digital technologies the respondents can organise foreign language learning individually (45%), in pairs (10%), in small groups (15%), with the whole class (30%). All these learning modes are important and not easy to realise either online or face-to-face, especially in heterogeneous groups. However, the task is achievable due to combination of different digital resources.

Almost all the pre-service teachers (98%) realise the importance of maintaining the confidentiality of information on the Internet, security of its sharing, creation and storage, and awareness of ethical issues in the work with digital resources.

In all respondents’ (100%) opinion, creating the author’s digital resources for educational purposes in order to satisfy different learners’ needs is necessary.

Discussion

The findings of this study showed a positive attitude of pre-service FL teachers to the digital competence development. They need to enhance this competence in order to effectively organise the

learners' learning process. According to UNESCO (2018), "the effective integration of ICT in the schools and classrooms can transform pedagogy and empower students. In this context, it is essential that teachers have the competencies to integrate ICT in their professional practise to ensure the equity and quality of learning" (p. 1). This is in line with our survey where the pre-service FL teachers give priority to the use of digital technologies and want to use them (86% - "always" and 14% - "often"). This trend is dictated, firstly, by the global pandemic and, secondly, by the intensive development of technologies that require their constant implementation.

For successful development of digital competence in pre-service FL teachers, the criteria for critical selection, analysis and assessment of digital resources were singled out. The first criterion is *accessibility*, which includes 1) free distribution of digital tools and free access of the pre-service teachers to the selected digital tools; 2) the possibility to create author's educational digital resources without special knowledge of programming; 3) access of any user (teacher or student) to the created digital resources for foreign language learning.

The second criterion is focused on the *target audience* taking into consideration the age of learners, the level of foreign language proficiency.

The criterion of *didactic functionality* requires the selection of digital technologies that allows the acquisition of knowledge and the development of skills for the formation of foreign language communicative competence as well as monitoring of its formation.

The criterion of *minimum sufficiency* determines the selection of digital technologies with a wide range of tools, the didactic and technical features of which will allow the pre-service teachers to create different types of tasks, tests, games with minimal time consumption. Traditionally, in-service teachers, as well as pre-service teachers of foreign languages, use different digital resources that can be differentiated into basic and auxiliary. The basic resources satisfy most learner's foreign language needs. For example, Moodle and Google Classroom allow pre-service teachers to create activities for the development of learners' foreign language speaking, listening, reading and writing skills. Word It Out, XMind, Photocollage are considered auxiliary ones and focused on the development of particular skills (Xmind – speaking skills, Word It Out – lexical skills). However, pre-service teachers have to be able to choose a sufficient number of tools that can solve as many tasks as it is possible.

The criterion of *multilingualism* involves the selection of digital technology for teaching different foreign languages.

The criterion of "*dissemination*" considers the ability to print the created training material / save it on a computer / publish on social networks / generate a URL / integrate with other software (Moodle systems and cloud ICT services).

The criterion of *convenience and ease of digital technology use* allows pre-service teachers to select educational technologies which can be used on any device – computer, laptop, tablet, smartphone, etc.

The last criterion "*secure managing of digital resources*" involves safe creating, storing and sharing digital information. We agree with Redecker (2017) who states that "educators are currently confronted with a wealth of digital (educational) resources they can use for teaching. They need to be aware of how to responsibly use and manage digital content. They must respect copyright rules when using, modifying and sharing resources, and protect sensitive content and data" (p. 20).

It is important to focus pre-service teachers' attention on the methodological potential of synchronous and asynchronous communication technologies for forming foreign language communicative competence. It means that while implementing digital technologies the pre-service teacher needs to be able to define the goals, to determine the sub-skills (phonological, grammatical, lexical) and skills (speaking, listening, reading, writing) that have to be developed; to outline the acceptable modes of the organisation of the learning process (individual, group, whole class); to define the type of assessment; to outline the tasks for differentiation of learners. All these considerations are necessary for creating author's educational digital resources for the development of foreign language communicative competence.

University classes and internship at school help pre-service FL teachers to boost their digital competence. Such internship includes teachers' consultations and monitoring the progress of digital competence development with the help of checklists for systematical assessment of the digital skills by pre-service teachers. We share the opinion of Ghomi and Redecker (2019) that DigCompEdu assessment tools give teachers the opportunity (1) to learn more about the DigCompEdu framework, i.e. about what it means to be a digitally competent educator; (2) to get the primary understanding of their own individual strength; and (3) to get an idea of how to enhance their competences (p. 548). Using checklists for systematical assessment of the digital skills and regular teachers' consulting positively influence the effective development of digital competence.

Limitations

This study was devoted to the development of the digital competence in pre-service FL teachers. The research was limited to Ukrainian participants only (56 pre-service teachers); however, similar surveys can be conducted on the data sets of different countries to receive new insights.

Conclusions

The study showed that digital competence is an integral part of professional competence of pre-service FL teachers. Digital competence of pre-service FL teachers is the ability to solve professional and methodological problems using digital technologies; to select and independently create digital resources, based on the complex interaction of knowledge about didactic facilities of digital technologies, skills of their practical use for the formation of foreign language communicative competence and control of its formation in learners.

Development of digital competence should be focused on the assumptions of Managing Digital Resources Area and the Methodological Managing of Digital Resources Area. The first area relies on a technical side of digital technologies and didactic possibilities which can be applied in foreign language teaching and learning. For this purpose, pre-service teachers should be able to critically select, analyse and assess digital resources according to the outlined criteria. In addition, they should know how to maintain the privacy of personal information; to create, store and share digital information safely; to follow ethical rules. The Methodological Managing of Digital Resources Area covers methodological side of the use of digital technologies in teaching foreign languages. Pre-service FL teachers' practicing and monitoring digital skills development using check-lists for systematical assessment and regular teachers' consultations lead to the effective enhancing of their digital competence.

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