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FOREIGN LANGUAGE TEACHING IN A DIGITAL ENVIRONMENT: TEACHERS' ATTITUDES AND BELIEFS^{2 3}

Abstract: Taking into account that traditional foreign language teaching is being moved to a virtual environment, the obligations of teachers are changing constantly. Their main tasks are to accept new technologies and develop their digital literacy. However, whether teachers will apply ICT in teaching practice depends on their personal and pedagogical attitudes and beliefs. When teachers' attitudes and beliefs are positive, new technologies become one of their important teaching materials. The opposite of this, with negative attitudes and beliefs about applying ICT in teaching, teachers reject them and do not enable students to acquire new skills and knowledge in a virtual environment. In that sense, we wanted to examine the foreign language teachers' attitudes about the use of ICT digital tools in Serbia. The results are obtained by the inferential analysis which is used to confirm or refute hypothesis about the possible conditioning of the identified factors. The results showed that positive attitudes of teachers have a positive effect on learning in a digital environment, but also that positive attitudes increase significantly with their education for the use of ICT. Finally, it was shown that teachers employed at the university have more negative attitudes about the advantages of language learning in a digital environment, in contrast to teachers employed in primary and secondary schools and in foreign language schools. In support of this, it is observed that training in this field is also necessary for teachers who work at faculties in order to increase awareness of the value of new technologies in the teaching process.

Keywords: foreign languages, language teaching, ICT, digital tools, teachers' beliefs, teachers' attitudes.

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1. Introduction

According to Unesco (Jimoyiannis & Komis, 2006), Information and Communications Technologies (ICT) have a huge influence on many social aspects such as: culture, economy, administration, education etc. Therefore, ICT and education became inevitably related. Taking into account that modern students or digital generations are familiar with ICT, it is impossible not to adapt a basic curriculum to their interests and ICT skills. Nowadays, these skills have the same importance as reading and writing. Moreover, ICT is also one of the essential parts of educational reform which refers to preparing teachers for teaching in a digital environment (Davis, 2003; Niemi, 2003; Pearson, 2003).

Istiani Sari et al. (2017) point out that the use of ICT in language teaching and learning improve the quality of education and increase the digital competencies of teachers and students in this technological era that is constantly progressing and changing.

In that sense, Vidosavljevic (2021) indicates that it is very significant to work on the teachers' and students' development of digital literacy which implies knowledge about how to find, select, analyse and adequately use digital information. Knowing how and with what purpose to use digital tools, teachers and students can contribute to their own development and learning. The benefits of using ICT are numerous, but whether students will use digital tools, create online projects and work on their tasks in an online environment, mostly depends on teachers' attitudes towards the use of modern technologies and accepting their pedagogical value.

Thus, Moursund & Bielefeldt (1999; Jean Williams, 2015) consider that

'one of the prerequisites for acceptance and implementation of computers in an educational system is the positive attitude of both teachers and students toward their use. Having a positive attitude toward technology has been shown to be associated with increased classroom use of computers.' (p.71)

Finally, Jean Williams (2015) cites authors like Wentworth (1996), Ertmer and Hruskocy (1999), CEO Forum (1999), Moallem and Micallef (1997) who point out that the results of many studies have shown that the resistance to incorporating ICT use into the practice came from the teachers' attitudes. In that sense, some of the studies have demonstrated that

'the more positive teachers' attitudes toward computer use in instruction becomes, the more they tend to use computers. This contributes to a more positive attitude, which in turn motivates teachers to try additional computer-related instructional activities.' (Williams 2015:p.71)

Furthermore, proponents of educational technology initiatives are aware of this connection between teachers' attitudes and ICT use so quite often one of their many objectives is to organise professional developments which will help teachers to gain positive attitudes and notice the value of using ICT in education.

Bearing in mind the above, the goal of this paper is to briefly present research related to the mentioned topic as well as the results of the research, which was conducted in Serbia among teachers of foreign languages. Namely, in order to examine the attitudes of the above-mentioned respondents regarding new technologies, a questionnaire was used as a research method and the results were processed statistically, more precisely, by inferential analysis.

2. Theoretical Background

Undoubtedly, foreign language teaching today is increasingly focused on the use of modern technologies as one of numerous additional teaching materials. In that regard, Vidosavljevic (2022) indicates that taking into account that traditional learning in the classroom is being moved to a virtual environment, the obligations of language teachers are increasing constantly. Their main tasks are to develop their own digital literacy and accept modern technologies. However, whether teachers will accept and apply ICT in their teaching practice largely depends on their personal and pedagogical attitudes and beliefs. When teachers' attitudes and beliefs are positive, new technologies become their most important teaching materials, but when teachers have negative attitudes and beliefs about using ICT in teaching, they reject them and do not enable students to acquire new skills and knowledge in a digital environment.

Related to this topic, Prestridge (2012) used the principal component analysis (PCA) and qualitative method, i.e. an interview, to research language teachers' attitudes and beliefs in an Australian school. Four teacher groups were distinguished according to their ICT use in teaching practice. The results showed that the first group named 'foundational ICT users' had a basic view of teaching and learning with ICT, while the second group titled as 'developing ICT practices' believed that ICT as a didactic material can achieve established curriculum outcomes. The next group of skill-based teachers recognised the importance and value of ICT skills in their students who will be a part of the actual labour market in a digital environment. Finally, the last group consisted of teachers who did the most complex digital tasks and who demonstrated strong positive attitudes and beliefs about the value of ICT as didactic material. Generally, in this research, the majority of teachers were basic users of ICT and fell into the first category.

Knezek and Christensen (2002) conducted a similar research related to teachers' attitudes and beliefs. According to the obtained results, the authors represented different stages of adopting new technologies in teaching. On the one hand, one group of language teachers pointed out that they do not enjoy using computers, e-mails, etc. and they often feel anxious and have negative feelings. On the other hand, another group of respondents showed a high score in computer enjoyment, productivity, e-mailing, and a semantic perception of computers, which is the consequence of positive attitudes towards ICT.

Another research by Jimoyiannis and Komis (2006) was conducted in Greece with the aim of exploring teachers' attitudes and beliefs about ICT in education. In this study, 250 language teachers took part in the survey that was used. The results showed that the great majority of the teachers have positive attitudes toward applying ICT tools. The differences are visible in the beliefs of teachers based on their gender, specialisation, teaching experience, computer skills, ICT training, and computer ownership. Besides that, the results showed that some language teachers feared using ICT in their educational practice. However, three groups were distinguished by the analysis: a group of teachers who have highly positive attitudes about ICT in education, the second group of teachers whose attitudes are moderately positive, and the third group expressing negative or neutral beliefs.

Similarly, Mama and Hennessy (2013) intended to explore language teachers' attitudes and beliefs in relation to ICT using a qualitative and quantitative method. They identified four different teacher groups in relation to the value of the use of ICT in teaching and learning. Namely, three groups showed positive beliefs towards ICT in education, while the fourth group demonstrated negative beliefs. This last group believes that ICT has no benefit to teaching and learning, that it is unnecessary for education and extremely distracting for students.

Finally, Liton (2014) explored language teachers' attitudes towards ICT integration into pedagogy and the results showed that the majority of them had positive attitudes. Furthermore, language teachers highlighted that ICT integrated learning situations motivate students, enhance students' self-directed autonomy and teacher-student interaction. On the other hand, some senior language teachers have negative attitudes towards ICT integration which is the result of their own deficiency of digital skills and knowledge in using new technologies in the classroom.

3. Methodology

The data for this research were collected through a survey in a digital environment. Namely, the survey link was shared on the social networks *Facebook*

and *Instagram* into groups that bring together foreign language teachers, and in this way respondents could access the survey link and fill it out. The data collection lasted from May to September 2020. The participation in this survey was anonymous.

Foreign language teachers from all over Serbia participated in the research. 106 respondents participated in the survey, of which 90.6% were female teachers and 9.4% were male foreign language teachers. In the largest percentage, about 38.7% of the respondents were between 35 and 45 years old, while 30.3% of the respondents were aged 25 to 35, followed by 22.6% from 45 to 55 and 7.5% from 55 to 65. About 89.6% of the respondents live in urban areas, while 10.4% live in rural areas.

Concerning the professional training that was completed, 48.1% of the respondents have a degree in philology, 39.6% have a master's degree in philology, while a smaller percentage of respondents have a doctor of philological sciences title. Regarding the institution where they work, 42.5% of the respondents work in primary school, 25.5% in high school, 11.3% at a university, while the remaining number of respondents work in private foreign language schools. Furthermore, 43.4% of the respondents have from 10 to 20 years of work experience in teaching, 24.5% of the teachers have been working for over 20 years, while 19.8% have from 5 to 10 years and 12.3% have one to five years of work experience. Finally, the teachers who participated in this research teach the following languages: Arabic, English, Spanish, French, Italian, German, Russian and Swedish.

Using a survey as a research method, we intended to examine the foreign language teachers' attitudes towards the use of digital tools in Serbia. Furthermore, we will describe in detail the process of creating the survey, collecting and analysing the data. The target audience is described, and the inferential analysis's findings are presented. Through the survey which was created via *Google Form* under the title 'Digital literacy of foreign language teachers', we tried to examine teachers' attitudes towards the use of new technologies in foreign language teaching and learning in a digital environment.

The first section of the survey deals with the sociodemographic data of the respondents, focusing on their gender, age, as well as the environment they live in and teach. We are also interested in the data on the respondents' level of education, the institutions they work at, the years of their work experience and the foreign languages they teach.

The second section 'Learning/teaching foreign languages in a digital environment' aimed to examine the participants' attitudes to learning foreign languages in a digital environment, as well as towards the impact it has on students, their motivation, creativity, autonomy, critical thinking, cooperation

and development of language skills. In addition, we intended to examine teachers' attitudes about modern technology and digital literacy, i.e. the extent to which they organise teaching and create teaching materials using modes such as texts, images, sounds, videos, graphics in a digital environment. The aim of this part of the survey was also to examine the respondents' attitudes towards the role of teachers in using ICT, as well as how motivated teachers are to use new technologies and how they overcome difficulties and challenges when using them.

The third section of the survey entitled 'Use of technology in teaching foreign languages' aimed to examine whether the teachers have access to computers and the Internet in the institutions they work at and whether they recognise the benefits of using modern technologies in learning and teaching foreign languages. Having this in mind, we intended to gain insight into the current situation in educational institutions about the possibilities of using technology in foreign language classes. Also, using a Likert scale, the paper aimed to examine whether foreign language teachers use information and communication technologies (ICT) in classes, which educational platforms and applications they use, how often they use them, as well as to identify the benefits and risks of using technology in teaching.

Finally, the fourth section of this survey was created with the aim of investigating what changes foreign language teaching experienced as a result of the global Covid-19 pandemic. Bearing in mind that the data were collected in the midst of the coronavirus pandemic during the spring of 2020, which led to a sudden transition to online teaching and environment, we considered it very important to investigate the specificity of this moment, as well as how foreign language teachers found their way in the new circumstances.

In terms of the statistical analysis that was performed on the collected data, it is an inferential analysis. The inferential analysis was carried out for the purpose of examining the hypotheses about the possible conditioning of the identified factors. The hypotheses that were tested are as follows:

- Prediction of teachers' attitudes towards learning in a digital environment based on their ICT education;
- Prediction of teachers' attitudes about digitisation during the *Covid-19 pandemic* based on teachers' attitudes toward the use of ICT and education for their use;
- Differences in the dimensions of teachers' attitudes towards learning in a digital environment in relation to the institution where they work;
- Differences in the dimensions of teachers' attitudes towards learning in a digital environment in relation to years of work experience in teaching.

For this purpose, the method of multiple regression analysis was used for the first two hypotheses, while in the case of the second two hypotheses, one-factor analysis of variance - ANOVA - was carried out.

4. Results

Therefore, the survey data were subjected to inferential analysis, and the resulting research findings, as well as hypotheses and tables, are presented below.

4. 1. Hypothesis 1

Testing the relationship between teachers' attitudes towards learning in a digital environment and their education for the use of ICT was the first hypothesis. In this regard, the correlations that exist between these dimensions were low, however, statistically significant (see Table 1).

Table 1

Results of multiple regression analysis in the prediction of teachers' attitudes towards learning in a digital environment related to cognitive and conative factors based on teacher education for the use of ICT

Predictors	β	t	p	Summary model
Lightness of the use of ICT	-.202	-2.127	.036	$F_{(4,101)} = 2.97$ $p = .023$ $aR^2 = .070$
Positive attitudes of teachers towards ICT	.261	2,488	.014	
Characteristics of teachers and learning in a digital age	-.121	-1.093	.277	
Education of teachers	.102	1.019	.311	

The results of the multiple regressions analysis showed that this first model of hypothesis from Table 1 was a significant model and that could explain the small percentage variance - 7%. Statistically significant predictors, in this case, are the dimension *Lightness of the use of ICT*, which had a low number of negative predictions, as well as the dimension *Positive attitude of teacher towards ICT*, which produced a favourable low prediction.

Thus, the first model of this hypothesis confirmed that the positive attitude of teachers towards ICT increases with a positive attitude towards learning in a

digital environment. However, teachers' positive attitudes towards ICT are slightly declining due to its ease of use. Specifically, teachers are less likely to question the pedagogical value of ICT when it is easier for them to use.

Table 2
Results of multiple regression analysis in the prediction of teachers' attitudes towards learning in a digital environment related to learning based on teacher education for the use of ICT

Predictors	β	t	p	Summary model
Lightness of the use of ICT	-.253	-2,662	.009	$F_{(4,101)} = 2.75$ $p = .032$ $aR^2 = .063$
Positive attitudes of teachers towards ICT	.018	.166	.868	
Characteristics of teachers and learning in a digital age	-.036	-.327	.745	
Education of teachers	.211	2.107	.038	

Also, the multiple regression analysis results showed that another model from Table 2 was significant and it could explain 6.3% of the variance criteria. Statistically significant predictors, in this case, were the dimension *Lightness of the use of ICT*, which had a low number of negative predictions, while the dimension *Education of teachers*, accomplished a positive low prediction.

Namely, the second model of this hypothesis also indicated that with the ease of use of ICT, positive attitudes of teachers towards learning in a digital environment decrease, and increase with teacher training. In this sense, as teachers improve in this field, they become more aware of the value of ICT, and their attitudes change in a positive way.

Table 3
Results of multiple regression analysis in the prediction of the teacher's attitude about the role of digital competencies based on teacher education for the use of ICT

Predictors	β	t	p	Summary model
Lightness of the use of ICT	-.038	-.419	.676	$F_{(4,101)} = 5.01$ $p = .001$ $aR^2 = .133$
Positive attitudes of teachers towards ICT	.391	3,861	.000	
Characteristics of teachers and learning in a digital age	-.012	-.115	.908	
Education of teachers	.087	.905	.368	

Further, the results of multiple regressions analysis showed that the third model hypothesis from Table 3 was significant and that it explained 13.3% of the variance criteria. A statistically significant predictor, in this case, was only the dimension *Positive attitudes of teachers towards ICT*, which had moderately strong predictions.

The conclusion drawn from the third model of the given hypothesis is that teachers' positive attitudes towards ICT are correlated with their positive attitudes towards the role of digital competencies. Therefore, teachers are more likely to want to acquire and further develop digital competencies when they cultivate positive attitudes towards ICT.

Table 4

Results of multiple regression analysis in the prediction of the teacher's attitude about the role of digital competencies in improving the teaching process based on teacher education for the use of ICT

Predictors	β	t	p	Summary model
Lightness of the use of ICT	.007	.076	.939	$F_{(4,101)} = 4.36$ $p = .003$ $aR^2 = .114$
Positive attitudes of teachers towards ICT	.359	3,509	.001	
Characteristics of teachers and learning in a digital age	.021	.192	.848	
Education of teachers	.071	.730	.467	

Finally, the results of multiple regression analysis showed that the fourth hypothesis model from Table 4 was significant and explained 11.4 % of the variance criteria. This time also, statistically significant, the predictor was the *Positive attitudes of teachers towards ICT* dimension, which had positive and medium strength predictions.

Teachers' positive attitudes towards ICT and teachers' positive attitudes towards the role of digital competencies in enhancing the teaching process are found to correlate, according to this model. This demonstrated that teachers with positive attitudes are more cogniscent of the significance of the development of digital competencies in the classroom.

4. 2. Hypothesis 2

Based on teacher education for the use of ICT and attitudes related to their use, the second hypothesis called for testing the relationship between teachers' attitudes towards learning in a digital environment during the Covid-19 pandemic.

Specifically, the connections between these aspects were of low to medium power, and they were likewise measurably vital to an enormous degree. In spite of the fact that there was no statistically significant correlation between any of the dimensions, they were all retained in the regression function to investigate their potential contribution to the criteria's total variance.

Table 5

Results of multiple regression analysis in the prediction of students' motivation and communication with teachers during the pandemic based on teacher education for the use of ICT

Predictors	β	T	p	Summary model
Advantages - cognitive and conative	.083	.500	.618	$F_{(4,101)} = 7.76$ $p < .001$ $aR^2 = .340$
Advantages - learning language	-.049	-.298	.767	
Improvement of DC	-.030	-.253	.801	
Organisation of the teaching process	.237	2,046	.043	
Lightness use of ICT	.175	2.115	.037	
Positive attitudes of teachers towards ICT	.412	3,910	.000	
Characteristics of teachers and learning in a digital age	.012	.124	.902	
Education of teachers	.192	2.206	.030	

Therefore, the results of multiple regression analysis showed that the first hypothesis model from Table 5 was significant and explained as much as 34% of the variance criteria. Statistically significant predictors were the following dimensions: *Organisation of the teaching process*, *Ease of use*, *Positive attitudes of teachers towards ICT* and *Education of teachers*. All of the aforementioned predictors had a positive direction and were all low.

Specifically, the first model of the given hypothesis suggested that students' motivation and communication with teachers would rise in tandem with improved teaching organisation, ease of use, and teachers' positive attitudes towards ICT. This means that using digital resources is made easier when teaching is organised at a higher level. Students' increased motivation and improved communication

with their teachers are both influenced by teachers' positive attitudes towards new technologies.

Table 6

Results of multiple regression analysis in the prediction of ease of access of students to information and materials during the pandemic based on teacher education for the use of ICT

Predictors	β	t	p	Summary model
Advantages - cognitive and conative	.303	1,750	.083	$F_{(4,101)} = 6.30$ $p < .001$ $aR^2 = .288$
Advantages - learning language	-.178	-1.038	.302	
Improvement of DC	.262	2.128	.036	
Organisation of the teaching process	-.005	-.038	.970	
Lightness of the use of ICT	.023	.270	.787	
Positive attitudes of teachers towards ICT	.141	1.287	.201	
Characteristics of teachers and learning in a digital age	.276	2,812	.006	
Education of teachers	.104	1.144	.255	

Further, according to the results of the multiple regression analysis, the second hypothesis model from Table 6 was also significant and explained 28.8 % of the variance criteria. Statistically significant predictors, in this case, were the following dimensions: *Improvement of digital competence of teachers* and *Characteristics of teachers and learning in a digital age*. Namely, both coefficients were low and positive.

As a result, the second model of this hypothesis proved that students and their ease of access to digital information during the pandemic are positively impacted by teachers' development of digital competencies and leadership qualities like motivation and creativity. The preceding evidence corroborates the significance of the teacher's role in digital learning. As a result, when teachers in this field continue to grow, students who work in a digital environment also receive the necessary support.

Table 7

Results of multiple regression analysis in predicting the economy of learning during the pandemic based on teacher education for the use of ICT

Predictors	β	t	p	Summary model
Advantages - cognitive and conative	.154	.772	.442	$F_{(4,101)} = 1.76$ $p < .096$ $aR^2 = .055$
Advantages - learning language	-.129	-.651	.516	
Improvement of DC	-.094	-.665	.508	
Organisation of the teaching process	.203	1,463	.147	
Lightness of the use of ICT	-.045	-.458	.648	
Positive attitudes of teachers towards ICT	.102	.811	.419	
Characteristics of teachers and learning in a digital age	.149	1.316	.191	
Education of teachers	.111	1.061	.291	

Finally, the results of multiple regression analysis indicated that the third model of the hypothesis from Table 7 was significant and it explained only 5.5 % of the variance criteria. However, despite the fact that the model was statistically significant, no predictor was strong enough to predict significant contributions.

4. 3. Hypothesis 3

The next hypothesis referred to the examination of differences in the attitudes of teachers in relation to the institution in which they work. In this regard, bearing in mind that the distribution of respondents according to the type of institution is a relatively uniform, one-factor analysis of variance - ANOVA was conducted, and the results partially confirmed our hypothesis.

Table 8

Results of one-factor analysis of variance - ANOVA for examining the difference in attitudes towards learning in a digital environment in relation to the institution where the respondents are employed

		Sum square	df	Average	F	p
Advantages - conative and cognitively	Intergroup	5,230	5	1,046	1.894	.102
	Intragroup	55,213	100	.552		
	In total	60,443	105			
Advantages - learning tongue	Intergroup	8,061	5	1.612	2,586	.030
	Intragroup	62,343	100	.623		
	In total	70,404	105			
Promotion of digital competence	Intergroup	2,568	5	.514	1.122	.354
	Intragroup	45,761	100	.458		
	In total	48,328	105			
Organisation of the teaching process	Intergroup	9,322	5	1.864	3,814	.003
	Intragroup	48,888	100	.489		
	In total	58,210	105			
Lightness of the use of ICT	Intergroup	.453	5	.091	.519	.761
	Intragroup	17,448	100	.174		
	In total	17,901	105			
Positive attitudes of teachers towards the use of ICT	Intergroup	1,935	5	.387	.792	.558
	Intragroup	48,872	100	.489		
	In total	50,807	105			
Characteristics of teachers and learning in a digital age	Intergroup	.972	5	.194	.676	.643
	Intragroup	28,760	100	.288		
	In total	29,732	105			
Education of teachers	Intergroup	1,583	5	.317	.700	.625
	Intragroup	45,240	100	.452		
	In total	46,823	105			
Motivation and communication	Intergroup	2,089	5	.418	.547	.740
	Intragroup	76,327	100	.763		
	In total	78,416	105			
Access	Intergroup	2,935	5	.587	1.111	.360
	Intragroup	52,850	100	.529		
	In total	55,785	105			

Economy of learning	Intergroup	21,860	5	4,372	3.338	.008
	Intragroup	130,980	100	1,310		
	In total	152,840	105			

The results confirmed the existence of significant differences when it comes to the institution in which teachers work. On the following dimensions, there were differences between the groups: *Advantage - learning of languages*, *Organisation of the teaching process* and *Economy of learning*. POST HOC LSD analysis was carried out with the aim to investigate intragroup differences.

It was demonstrated that when it comes to the advantages of language learning in a digital environment related to language, teachers employed at the university have more negative attitudes compared to teachers employed in primary and secondary schools and in foreign language schools. On the other hand, private language teachers, do not differ from public language teachers. Additionally, a more negative attitude towards the organisation of the teaching process was observed, particularly among those who work in a non-school or private practice.

There was a difference between teachers from foreign language schools and those who work in primary and secondary school, as well as in college when it comes to learning during a pandemic and the economy of the learning process. Specifically, teachers who work in private schools tend to be more pessimistic than those who work in public schools. The differences that exist among the various other groups are not statistically significant.

4. 4. Hypothesis 4

The examination of differences in teachers' attitudes based on years of teaching experience was the last hypothesis. A one-factor analysis of variance (ANOVA) was used in this context. However, the hypothesis that there are differences in attitudes among the groups of respondents based on years of teaching experience was not supported in this instance.

Table 9

Results of one-factor analysis of variance - ANOVA for examining the difference in attitudes towards learning in a digital environment in relation to years of work experience in teaching

		Sum of squares	df	Average	F	P
Advantages - conative and cognitively	Intergroup	.816	3	.272	.465	.707
	Intragroup	59,627	102	.585		
	In total	60,443	105			
Advantages - learning tongue	Intergroup	1.258	3	.419	.618	.605
	Intragroup	69,146	102	.678		
	In total	70.404	105			
Promotion of digital competence	Intergroup	.853	3	.284	.611	.609
	Intragroup	47,475	102	.465		
	In total	48,328	105			
Organisation of the teaching process	Intergroup	1,483	3	.494	.889	.450
	Intragroup	56,727	102	.556		
	In total	58,210	105			
Lightness of the use of ICT	Intergroup	.421	3	.140	.820	.486
	Intragroup	17,480	102	.171		
	In total	17,901	105			
Positive attitudes of teachers toward the use of ICT	Intergroup	.677	3	.226	.459	.712
	Intragroup	50.131	102	.491		
	In total	50,807	105			
Characteristics of teachers and learning in a digital age	Intergroup	.078	3	.026	.090	.966
	Intragroup	29,653	102	.291		
	In total	29,732	105			
Education of teachers	Intergroup	1.363	3	.454	1.019	.387
	Intragroup	45,460	102	.446		
	In total	46,823	105			
Motivation and communication	Intergroup	4.010	3	1.337	1.832	.146
	Intragroup	74.406	102	.729		
	In total	78,416	105			
Access	Intergroup	.954	3	.318	.591	.622
	Intragroup	54,832	102	.538		
	In total	55,785	105			

5. Discussion and Conclusions

In order to examine foreign language teachers' attitudes towards the use of new technologies in language teaching and acting in a digital environment, an inferential analysis was carried out.

The inferential analysis revealed a greater number of hypotheses from the questionnaire named "Digital literacy of foreign language teachers". Namely, in the questionnaire, it was confirmed that positive attitudes of teachers have a positive effect on learning in a digital environment, but also that positive attitudes increase significantly with their education for the use of ICT. It was also confirmed that when teachers develop positive attitudes about ICT and when they are aware of the value of modern technologies, they have a greater desire to develop their own digital competencies. Therefore, only teachers who are aware of the importance and value of modern technologies can develop digital competencies, improve further in that field and create new learning.

Furthermore, during the initial period of the *Covid-19 pandemic*, it was confirmed that the use of digital resources, as well as students' increased motivation and improved communication with their teachers, are influenced by positive attitudes towards modern technologies and a higher level of teaching organisation. Ruiz-Aquino et al. (2022) also came to a similar conclusion. They intended to research the relationship between the attitude towards ICT and the use of virtual teaching-learning environments of 210 teachers at the University of Huánuco (Peru) during the *Covid-19 pandemic*. The results of the research showed that the use of virtual environments was positively and significantly related to the university teachers' attitudes towards ICT in the sample. In other words, the use of virtual environments rises with positive attitudes towards ICT.

Moreover, in our study, it was found that when teachers are continuously trained in the use of new technologies, then students also have appropriate support when working in a digital environment. This shows us exactly how important the role of teachers and their attitudes about ICT is and how much all of the above affects the digital work with students.

In addition to the above, it was shown that employed teachers at the university have more negative attitudes towards the advantages of language learning in a digital environment, in contrast to the teachers employed in primary and secondary schools and in private foreign language schools. In support of this, it has been observed that faculty teachers also require training in this area to raise awareness of the significance of new technologies to the teaching process.

Similar results about teachers' training were also obtained by Mura, Ferrari and Diamantini (2016) related to the subject. They suggest that:

'an effective training programme needs to address the change of pedagogical approach adopted from the teachers, the use of online communication tools and spaces as well as educational apps and tools and the reinforcement of a virtuous circle of feedback reception from the students that contribute to motivate the teachers actively involved in the process of change.' (p. 453)

Lastly, Sánchez-García et al. (2013) conclude that

'...an effective use of ICT in class cannot only rely on traditional teacher training courses, understood as a learning set of non-contextualised training contents... Consequently, we suggest that the effective use of ICT would depend on in-practice mentoring (i.e. guided practice) and peer collaboration that responds to specific real situations and not just be grounded in general non-contextualised teaching.' (p. 533)

The final hypothesis of this study, which is referred to as the examination of differences in the attitudes of teachers in relation to years of work experience in teaching (see Table 9), was not confirmed. On the other hand, Yavich and Davidovitch (2021) examined the perceptions and attitudes of 154 teachers towards tablets as digital pedagogical aids from an intergenerational perspective. The authors compared teachers from Generation Y and Generation X at the beginning of the COVID-19 pandemic in Israel. The research findings showed that teachers from Generation Y (aged 26-42) have more positive general attitudes towards the use of tablets as an integral part of the study programme and identify more advantages than their Generation X colleagues (ages 43-65).

In general, in order for foreign language learning to be adequately implemented in a digital environment, it is undeniable that teachers who have the desire and will to introduce new methods, recognise and understand the pedagogical value of ICT, develop digital competencies, and above all, have positive attitudes are needed. Therefore, whether new technologies will be used primarily depends on the teachers, their knowledge, beliefs and attitudes. The digital environment certainly requires versatile teachers who, in addition to basic knowledge and competence, nurture and develop creativity, motivation and leadership both in themselves and in their students. In this regard, it is necessary to conduct additional research on the situation in the field of foreign language teaching in Serbia, as well as on how willing teachers are to use new technologies, how they use them, how they improve their digital skills, whether the situation has changed since the *Covid-19 pandemic*, and how their previous attitudes and beliefs have been affected by the sudden transition to a virtual environment.

References

1. CEO Forum. (1999) *Professional development: A link to better learning*. <http://www.ceoforum.org/reports.cfm/> [Accessed 15th January 2023]
2. Davis, N. (2003) Technology in teacher education in the USA: what makes for sustainable good practice?. *Technology, Pedagogy and Education*. 12 (1), 59–84.
3. Ertmer, P. & Hruskocy, C. (1999) Impacts of a university-elementary school partnership designed to support technology integration. *Educational Technology Research and Development*. 47 (1), 81–96.
4. Jimoyiannis, A. & Komis, V. (2006) Exploring secondary education teachers' attitudes and beliefs towards ICT adoption in education. *Themes in Education*. 7 (2), 181–204.
5. Knezek, G. & Christensen, R. (2002) Influence of Home Access on Attitudes, Skills, and Level of Use for Teachers and Students in Technology Integrating Classrooms. In D. Willis, J. Price & N. Davis (Eds.), *Proceedings of SITE 2002-Society for Information Technology & Teacher Education International Conference*. Nashville, Tennessee, USA, Association for the Advancement of Computing in Education (AACE). pp. 2037–2038.
6. Liton, H. A. (2014) Exploring Teachers' Attitude towards ICT integration into ESP and EFL Classroom. *International Journal of Instructional Technology and Distance Learning*. 11 (5), 3–18.
7. Mama, M. & Hennessy, S. (2013) Developing a typology of teacher beliefs and practices concerning classroom use of ICT. *Computers & Education*. 68 (1), 380–387.
8. Moallem, M. & Micallef, S. (1997) Instructional Technologists at Public Schools: A Study of the Role and Effectiveness of Technology Resource Teachers. In: *Proceedings of Selected Research and Development Presentations at the 1997 National Convention of the Association for Educational Communications and Technology*, pp. 14–18.
9. Moursund, D. & Bielefeldt, T. (1999) *Will new teachers be prepared to teach in a digital age? A national survey on information technology in teacher education*. Santa Monica, CA, Milken Exchange on Education Technology and the International Society for Technology in Education.
10. Mura, G., Ferrari, M. & Diamantini, D. (2016) *Training school teachers to the use of ICT – a preliminary study on motivation and attitude to innovation*. Papers presented at 2nd International Conference on Higher Education Advances, HEAd'16. Valencia, Universitat Politècnica de Valencia, pp. 453–460.
11. Niemi, H. (2003) Towards a Learning Society in Finland: information and communications technology in teacher education. *Technology, Pedagogy & Education*. 12 (1), 85–103.
12. Pearson, J. (2003) Information and Communications Technologies and teacher education in Australia. *Technology, Pedagogy & Education*. 12 (1), 39–58.
13. Prestridge, S. (2012) The beliefs behind the teacher that influences their ICT practices. *Computers and Education*. 58 (1) 449–458.

14. Ruiz-Aquino, M., Borneo Cantalicio, E., Alania-Contreras, R. D., Garcia Ponce, E. S., Zevallos Acosta, U. (2022) University teachers' attitudes towards ICTs and the use of virtual environments during the COVID-19 pandemic. *Publicaciones*. 52 (3), 121–133.
15. Sari, A. I., Suryani, N., Rochsantiningsih, D. & Suharno, M. (2017) Teachers' Perceptions towards Digital-Based Teaching Material. *Advances in Social Science, Education and Humanities Research (ASSEHR)*. 158, 136–143.
16. Sánchez-García, A. B., Mena Marcos, J. J., GuanLin, H. & Pinto Escibano, J. (2013) Teacher Development and ICT: The Effectiveness of a Training Program for In-service School Teachers. *Procedia - Social and Behavioral Sciences*. 92, 529–534.
17. Unesco (2000). *Informatics for Secondary Education. A Curriculum for Schools*, Paris, Unesco.
18. Vidosavljević, M. (2022) Teachers' attitudes about the use of new technologies in foreign language teaching. *Zbornik radova Učiteljskog fakulteta Prizren-Leposavić*. 17, 167–179.
19. Vidosavljević, M. (2021) Digitalna pismenost i učenje stranih jezika. *Baština*. 54, 87–103.
20. Williams, C. J. (2015) An Investigation of K-12 Teachers' Attitudes toward Computer Technology use in Schools. *Journal of Business & Economic Policy*. 2 (1), 71–87.
21. Yavich, R. & Davidovitch, N. (2021) Teachers' Attitudes to Use of Advanced Technological Tools as Teaching and Learning Aids: From an Inter-Generational Perspective. *The European Educational Researcher*. 4 (3), 329–354.
22. Wentworth, N. (1996) Educational technology: From curriculum course to the classroom. *Technology and Teacher Education Annual*, 335-358.

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НАСТАВА СТРАНОГ ЈЕЗИКА У ДИГИТАЛНОМ ОКРУЖЕЊУ: СТАВОВИ И УВЕРЕЊА НАСТАВНИКА

Резиме

С обзиром на то да се традиционална настава страних језика премешта у виртуелно окружење, обавезе наставника стално се мењају. Поред многобројних задатака, наставници, између осталог, имају и задатак да прихвате нове технологије и раде на развоју дигиталне писмености. Међутим, да ли ће наставници примењивати ИКТ у наставној пракси првенствено зависи од њихових личних и педагошких ставова и уверења. Када су ставови и уверења наставника позитивни, нове

технологије постају један од њихових важних наставних материјала. Насупрот томе, негативним ставовима и уверењима о примени ИКТ у настави, наставници их одбацују и онемогућавају ученицима да стекну нове вештине и знања у виртуелном окружењу. С тим у вези, желели смо да испитамо ставове наставника страних језика о употреби ИКТ и дигиталних алата у Србији. Подаци за ово истраживање прикупљени су анкетом у дигиталном окружењу. Прикупљање података трајало је од маја до септембра 2020. и учешће у овој анкети било је анонимно. Подаци су подвргнути инференцијалној анализи чији је циљ да потврди или оповргне хипотезе о могућој условљености идентификованих фактора. У истраживању је учествовало 106 наставника страних језика са територије Србије. Крајњи резултати показали су да позитивни ставови наставника позитивно утичу на учење у дигиталном окружењу, али и да се позитивни ставови значајно повећавају образовањем наставника за коришћење ИКТ. Такође, резултати су показали да наставници запослени на универзитету имају негативније ставове о предностима учења језика у дигиталном окружењу, за разлику од наставника запослених у основним и средњим школама и у школама страних језика. У прилог томе, препорука је да се обуке из ове области повећају за наставнике који раде на факултетима како би се развила свест о педагошким вредностима нових технологија у наставном процесу.

► **Кључне речи:** страни језици, настава језика, ИКТ, дигитални алати, уверења наставника, ставови наставника.

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