

DEVELOPMENT OF DIGITAL COMPETENCIES WITH TEACHERS IN ELEMENTARY SCHOOL "EDHEM MULABDIĆ" DUE TO THE COVID PANDEMIC 19

Nedžada Tolja, e- mail: nedzada.je@live.com

International University Travnik in Travnik, Bosnia and Herzegovina

Original scientific work

Abstract: *The world is facing an atypical way of life during the pandemic period of Covid 19. The department of education, especially, was one of the departments that had to meet the challenge of a completely new living and teaching style. Having determined this, the purpose of this study aims to develop and complete the teachers' digital competence at Elementary School Edhem Mulabdic in Opara during the pandemic period of Covid 19. The goal of the study, in general, is to present how a current situation, highly affecting the education system, has helped to develop and complete the teachers' digital competence in the education system. The collected data indicate that the education system was not completely ready to answer the challenges, but the adequate organization has had specific positive effects. The study fully acknowledges the significance of determining the level of human resources' eloquence in the aspect of digital competence at school, in addition to the further guidelines that would continuously develop and be upgraded.*

Key words: *information and communication technologies, digital competencies, distance learning, lifelong learning.*

1. Introduction

In late 2019 and early 2020, the world faces an invisible enemy and adapts to a special way of life. World officials had an important task, how to respond to the current situation and how to organize the lives of citizens due to the pandemic called Covid 19. The entire social system fell into a great crisis. One of the most important sectors of society that faced the challenge was certainly the education sector. The key issue was related to the adequate establishment of the teaching process, how to choose the most adequate model of work, and to achieve the best result. In addition to all the above, it was imperative to choose a model of work that will put the health of students in the forefront, and that the teaching content is realized.

In this regard, the aim of this paper is to present the way in which the new situation in the education system has developed and completed the digital competencies of teachers on the example of the Elementary School "Edhem Mulabdić" Opara.

In March 2020, there was a complete suspension of the teaching process in schools in the Central Bosnia Canton. According to the instructions of the Ministry of Education, Science, Youth, Culture and Sports, it was necessary to organize the teaching process. The organization of the teaching process was approached carefully, and information and communication technologies were put in the forefront with the aim of developing digital competencies of employees. Then the organization of distance learning was approached, which was an innovation in the teaching process. All of the above was in fact a new approach that is certainly on the line of lifelong learning where every employee in the educational process should monitor and upgrade the acquired knowledge.

2. INFORMATION AND COMMUNICATION TECHNOLOGIES AND DEVELOPMENT OF DIGITAL COMPETENCIES IN THE FUNCTION OF LIFELONG LEARNING

According to Semenov (2005), the concept of information and communication technology, which is applied in education, has expanded from the previous concept of information technology and represents a huge area of rapid change and rapid growth. The term IT (information technology) primarily refers to technologies that use computers to collect, process, store, protect and transmit information (Čelebić and Rendulić, 2011). What is important to emphasize in ICT (information and communication technology) is that it encompasses the dimension of communication, as the name suggests, and thus expands the basic information technology, given that today working with a computer is unthinkable if it is not connected to the network. The term ICT is actually a collective term by which we mean new technologies intended for communication, learning, acquiring knowledge, obtaining and exchanging data, games and entertainment (Čelebić and Rendulić, 2011). The use of information and communication technologies in teaching has become a primary activity since the advent of Covid 19. It is necessary to set adequate learning goals that must be reached, and the application of methods and procedures, and how the goal will be reached, is the choice of the teacher. It is generally desirable to acquaint the teacher with the existence and possibilities of teaching technique, and to instruct him on how to creatively apply the technique for involving students in all phases of the teaching process. Objectively, the material factors of teaching are extremely important, everything that serves the teacher and the student to achieve quality teaching should be used to achieve the goal of

teaching. Using these technologies, teachers participate in the lifelong learning program and develop and complement key learning competencies.

2.1. Digital competence

Digital competence was recognized in 2010 as one of the key competences in the Europe 2020 strategy (European Commission, 2010). The UNESCO ICT Competency Framework for Teachers (UNESCO, 2011) points out that the use of ICT in education includes an innovative approach to the application of technologies in education. With the development of technology, digital competence becomes a universal and basic need of all citizens for work, life and learning in the knowledge society. Digital competence implies the safe and critical use of information and the use of communication technologies for work, recreation and communication in the world. This competence includes the possession of certain skills such as knowledge of the use of computers and information and communication technologies in the modern information society. The individual must have knowledge in performing computer operations (databases, data storage, Internet, information handling, etc.). This includes knowledge and skills of using computers for searching, collecting and processing information, using information, exchanging information, handling information, communicating on networks via the Internet, understanding the possible dangers of the Internet and the like. Digital competence is achieved through participation and communication with the use of information and communication technology and the use of tools for creating e-content, and they can be said to be simply life skills that include human knowledge, skills and attitudes of modern man (Tatković, N. , Močinić, S. 2012).

3.2. Distance learning

Morrison (2003) defines distance learning as the continuous assimilation of knowledge and skills stimulated by synchronous and asynchronous learning activities that are

created, delivered, supported, and managed by Internet technologies. One of the most well-known definitions of e-learning in higher education in the UK came from Turvey (2009): "E-learning is flexible learning as well as distance learning, and can be seen as an application of ICT to provide communication and support among individuals and groups, all to provide better student support and better learning management.

3. METHODS

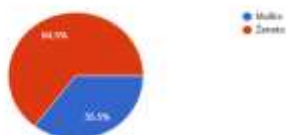
In this paper, an online survey was used during the research, and the aim was to examine the attitudes and opinions of employees at the Elementary School "Edhem Mulabdić" related to the development of digital competencies due to the Covid 19 pandemic. to 02/18/2021 years. An online survey is a survey that consists of one or a small number of questions, is posted on the website in addition to other content and is filled at the discretion of the respondents in order to examine public opinion (or part of it) on a particular topic. The questions are simple, short and clear with the offered answers (Zelenika, 2000). In addition to the online survey, the interview method was used. An interview is a method in which, through a scientific conversation between the examiner and the examinee, data relevant to the research are obtained. It should be a face-to-face meeting and there should be a specific purpose that should be known (Alihodžić, 1999). In addition to the survey, interviews were conducted with professional associates employed at the school. An interview is nothing more than a conversation with a respondent about a circle of questions, and its goal is to give us information about what a respondent knows about a question that is important for science.

It is important for each interview that it is given under the conditions that the interviewee knows what he will be asked about, that he freely agrees to the interview, that he is protected by secrecy and that an accurate record is kept of the content of the interview. It is important that the interviewers are able to create a pleasant atmosphere during the interview to reduce the tension of the respondents.

4. Discussion

The analysis of the collected data was performed after the survey and interviews. A total of 31 employees of direct participants in the educational process were interviewed, and interviews were conducted with professional associates.

1.5. Spolna struktura?
31 odgovor



Graph 1. Gender structure (Source: author's review)

Of the total number of respondents, 64.5% are female, while 35.5% are male.

2. Koliko godina imate?
31 odgovor



Graph 2. Age structure (Source: author's review)

Of the total number of respondents, 38.7% are over the age of 45, followed by respondents aged 36 to 45, a total of 35.5%, while 25.8% of respondents are aged 26 to 35.

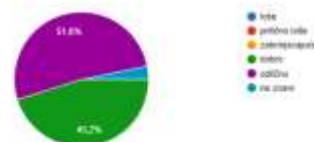
3. Koliko godina radite u sektoru obrazovanja?
31 odgovor



Graph 3. Work in the education sector (Source: author's review)

Of the total number of respondents, 38.7% work from 21 to 30 years in the education sector, followed by employees working up to 10 years, 35.5%, a percentage of 12.9% have employees working from 11 to 20 years and they working 31 to 40 years in the education sector.

4. Kako je stanje u Vašoj školi sa aspekta ICT (Informatično-komunikacijske tehnologije)?
31 odgovor



Graph 4. Condition of ICT equipment in school (Source: author's review)

Of the total number of respondents, 51.6% believe that the condition of ICT equipment in the school is excellent, 45.2% of respondents believe that the condition is good, while only 3.2% of respondents believe that the condition is bad.

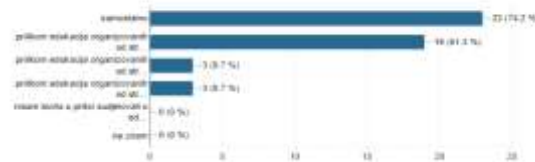
5. Da li ste upoznat(i) sa terminom digitalne kompetencije?
31 odgovor



Graph 5. Knowledge of digital technology terms (Source: author's review)

Out of the total number of respondents, 96.8% were familiar with the term digital technology, while 3.2% of respondents said "I don't know".

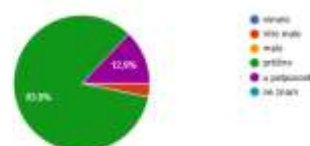
6. Na koji način ste doznali pojave pandemije razvijali digitalne kompetencije?
31 odgovor



Graph 6. Method of developing digital competencies in work (Source: author's review)

The largest number of respondents developed digital competencies independently, as well as through school-organized programs, while a smaller number of employees participated in trainings organized by the Ministry of Education and the non-governmental sector.

9. Koliko su prethodna znanja i iskustva iz oblasti razvijanja digitalnih kompetencija olakšala proces učenja na daljinu?
31 odgovor



Graph 7. Influence of previous knowledge on the development of digital competencies in work

(Source: author's review)

Based on previous knowledge and experience in the field of developing digital competencies in 83.9% of respondents it greatly facilitated the process of distance learning, while in 12.9% of respondents completely previous knowledge facilitated the process of distance learning, a small percentage of respondents who did not previous knowledge was facilitating them by 3.2%.



Graph 8. Development of digital competencies in work due to the Covid pandemic19

(Source:author's review)

Due to the Covid 19 pandemic, respondents have quite developed digital competencies, a total of 77.4% of them, 12.9% have fully developed digital competencies, while 9.7% have developed little digital competencies.

Table 1 - Commonly used digital tools perfected during the Covid 19 pandemic

4.1. Interviews with professional associates

During the interviews with professional associates, they described the situation in the educational process since the beginning of the Covid pandemic 19.

The education system at the time of the pandemic gave teachers a difficult task. Although most of our teachers had the opportunity to teach in a more modern way even before the pandemic, using certain ICTs, leaving behind the traditional approach to teaching, they faced a serious challenge. They were given the opportunity to learn

about new tools and use platforms they had not used before. However, most coped well, understanding this as a form of learning, personal development and professional advancement, and the period they have to go through during lifelong learning. A smaller proportion of teachers are those with many years of experience and a more traditional approach, but who have also responded to the challenge. In addition to the written word, every day students had the opportunity to learn through certain videos, presentations, quizzes and the like. The biggest drawback in this learning process is the social aspect. Children of this age have a need for daily socializing, exchange of experiences, practical work, sports games, etc. The team, competitions, group work is what motivates students, and gives teachers satisfaction with their work. Distance learning has developed and supplemented digital competencies in teachers, forced them to learn a lot of new things, helped in everyday work at a time of dizzying progress in information technology, however, deprived teachers of what is indispensable in their work, and that is a living word. The feedback of students in the moment, the reaction with a look, a touch, a hug and through the expression of empathy, is what is missing and makes our generations "robots".

Google classroom	Google Forms	Google patterns	Google draws	Google presentation
Edmodo	Google disk	Google Meet	Piktochart	Quizlet Live
Zoom	Powtoon	Animoto	Blocksite	Quizizz
Wordwall	Padlet	ThingLink	Flipgrid	Kidblog
Moovly	Linoit	Bubble	Recap	Bunceer
Wizer.me	Canva	One Drive	Tripline	Formativ
Kahoots	Storyjumper	Testmoz	Sokrative	QR Kodovi
Prezi	Flip grid	GeoGebra	Geogebra	Viber

4. CONCLUSION

Based on the conducted research and processed results, we can conclude that employees during their work in education directly or indirectly participated in trainings that were in line with the development of digital competencies. Since the school where they work is equipped with information and communication equipment, most respondents developed digital competencies either independently using installed equipment or through some of the programs organized by the school, while a small number of teachers participated in such trainings organized by the relevant ministry and NGOs. Due to the outbreak of the pandemic called Covid 19, teachers developed and completed digital competencies with the previously acquired knowledge, and they worked efficiently in the educational process. They organized the classes in such a way that, using digital tools, they presented the teaching contents in the best possible ways that will facilitate the students' processes of adopting the teaching material. Distance learning will be an

important segment of education in the future, so teachers are committed to further work of acquiring knowledge and improving the necessary skills. In the proposal for more efficient educational work, they stated additional education of teachers, students and parents, as well as support from the relevant Ministry.

Literature :

- Alihodžić, A., Gojković, P., Alihodžić, A., Nalić, N., (2009). Methodology of scientific research, Faculty of Economics and Technical Logistics, Travnik.
- Čelebić, G., & Rendulić, D. I. (2011). Basic concepts of information and communication technology. Digital Literacy Handbook.
- European Commission (2010), Europe 2020: A European strategy for smart, sustainable and inclusive growth. Brussels: European Commission.
- European Commission (2012), Rethinking Education: Investing in skills for better socioeconomic outcomes. Strasbourg: European Commission
- Morrison, D. : E-learning Strategies: How to Get Implementation and Delivery Right First Time, John Wiley & Sons, 2003.
- Tatković, N., Močinić, S. (2012). A teacher for the knowledge society. Pedagogical and technological paradigms of the Bologna process. Pula: Juraj Dobrila University of Pula.
- Turvey, K. : Pedagogical-research designs to capture the symbiotic nature of professional knowledge and learning about e-learning in initial teacher education in the UK, Computers & Education, 2009.
- Zelenika, R. (2000). Methodology and technology of scientific and professional work.