

METHODS OF EDUCATION DURING THE PANDEMIC IN THE CONTEXT OF DEMOGRAPHY

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Abstract

The research paper named: Methods of education during the pandemic in the context of demography concentrates on e-learning educational method and on its application in emergency situations, concretely during COVID-19 pandemic in 2020. Our goal in the research paper is to compare the results of a survey made by School Education Gateway in 2020 (Survey on online and distance learning – Results, School Education Gateway, 2020) with a survey made by us in the Slovak republic. We ask various teachers located in Slovakia about their personal experience of the rapid implementation of e-learning education methods in 2020, as a result and reaction for COVID-19 pandemic in Slovakia. Both qualitative researches were based on a very similar questionnaire, where the correspondents were asked about their experience and difficulties with implementing e-learning educational method in their everyday teaching activities in 2020. The following paper can be very useful and interesting, since it is about a new topic and territory, what gives us the opportunity to analyze the situation and learn from the mistakes in the future.

Key words: e-learning, education, emergency situation, pandemic, teachers' experience

JEL Code: A20, F01, I20

Introduction

In the research paper titled: Methods of education during the pandemic in the context of demography, we study and analyze e-learning educational method and its application in emergency situations. First of all, we define what does the word e-learning mean, why is it useful or useless at the process of education by defining. We study various quality literature, research papers written and published by professional publishers, who were discussing and working with the topic discussed by us.

Our goal was to collect data from teachers working in the Slovak republic, and analyze their experience with e-learning method during the COVID-19 pandemic. To achieve the

mentioned goal for collecting information we have used qualitative research method, a questionnaire creation. We have asked professional employees of various schools, as elementary-, high schools, universities and other educational institutions to fill and reply our questionnaire, what took approximately 5 mins. We have received 204 answers, of what 90% has arrived from female employees and 10% of male workers. Also, we have studied and analyzed the received data, thanks to what we can make general assumptions for the educational system in the Slovak Republic. Our questionnaire was concentrated on the 2019/2020 and 2020/2021 school years, when e-learning tools started to be used, without long theoretical and practical preparation for it, as a result of a radical reaction for COVID-19 pandemic in Slovakia.

Moreover, wanted to compare the received data and information with the survey made by School Education Gateway in 2020 (Survey on online and distance learning – Results, School Education Gateway, 2020). They have studied and collected data from the European Union (4859 respondents). Our questionnaire is based on this survey made by School Education Gateway. Our work is very interesting, since we compare the received results in Slovakia with the EU average.

Our questionnaire was prepared and available in two languages- Slovak and Hungarian- and contained 11 questions, where we asked about the gender, age, educational institution of our respondents. Also, we were curious if they have already met and used e-learning tools before the pandemic, if changing process for teaching online from their houses was creating difficulties for them and if they would like to use the mentioned tools in the future during the educational process. Also, we have asked our respondents to evaluate, with which facts or elements they had problem during e-learning educational method, and what factors would help them in increasing the quality of the method of e-learning in the future.

To work with the received data, we have used software Microsoft Excel, various functions as average or sum. Also, we have used comparing research method for the comparison of the received data of Slovak teachers with the EU average. Moreover, we have analyzed and studied quality research papers, documents from professional actors, who have worked and studied this area.

We define 3 research questions, what we try to answer on the following pages. First of all, we would like to see if our correspondences are/were satisfied with e-learning methodology. Secondly, if it was problematic for them to teach online from their home. Finally, we analyzed if the professors would like to use e-learning tools during the educational process, if the education will return back to the schools.

Our work can be very useful for educational institutions, for institutions working with the sector of education and also for the subjects, people situated in the mentioned sphere. Since this work is written in English, and studying the results of Slovakia compared with the EU average, it can be also useful and interesting for analysts and specialists from other countries of the EU. Moreover, we need to mention that since this topic, issue is very new and actual in the years of writing this work in 2021, it can interest various people working in or with this sector.

1 E-learning

“Development of e-learning is connected to development, technical improvement and also better affordability of computers. Already in the late eighties and the nineties of the last century the first form of electronic education- Computer-Based Training (CBT) was born. This is considered as the cornerstone of today’s eLearning. (Eger, 2009) The CBT system requires connection of personal computer to some other multimedia, for example CD-ROM”. (Hubaskova, 2015)

E-learning or we can say online learning was defined differently by various authors, Mašek and Černák (Černák, Mašek, 2007) said that e-learning is a “multimedia support for the learning process using modern information tools and communication technologies which is usually implemented through computer networks”. Clark (Clark, Mayer 2016) described online learning as an “instruction delivered on a digital device that is intended to support learning”. E-learning is a technique for learning, an educational method what happens with a special device, through the active presence of several tools as computer, laptop, tablet, mobile phone with the access for connection on the Internet. By e-learning method the material is presented and explained to the students through online form, what means not in presence in the class room.

“Learning that is enabled by electronic technologies, otherwise known as eLearning, can be either fully online, hybrid mode or web supported; however, regardless of the delivery method, there are number of tools and features available to instructors and students, and it is important for the eLearning community to study both inclinations and usage of these features (Buzetto-More, 2008). “ (Clark, Mayer 2016)

“Keller and Cernerud (Keller, Cernerud, 2002) have identified variables such as age, gender, previous experience of computers, technology acceptance and individual learning styles as major predictive factors when discussing acceptance of technology by students.” (Popovici, Mironov, 2014) It means not all the human being are able to adapt e-learning

educational method within the same time period and on equal quality level. Factors as age and the generational differences are an extremely important influencing aspect for the process of adaptation of the mentioned educational method. The cited issues and differences exist on both sides, it means also on the side of the information sender, as well as on the receiver side.

2 E-learning in Emergency Situations

In March 2020 with the appearance of Corona virus, or many times called as Covid-19 in Europe a pandemic has influenced all our life. This virus was spreading all around Europe in a very fast way, so the countries had to make fast, radical changes and decisions about closing borders, announcing lockdown with the goal to stop the spreading of the virus. As the result of these regulations students were forced to stay at home, safe in their houses and follow their courses, classes online on their computers, phones or tablets. “The COVID-19 response is not the first time that emergency eLearning programs have been considered as appropriate crisis-response measures. A similar strategy was observed in Fall 2009, where 67% of H1N1 contingency plans involved substitution of online classes for face-to-face classes. (Allen, Seaman, 2010) The comparators for COVID-19 also extend to other forms of natural disasters. Hurricane Katrina’s landfall in August 2005 physically damaged 27 colleges in the Gulf region and more in Texas, causing damage that made it impossible for on-campus courses (Meyer, Wilson, 2011). What followed was a rapid-deployment of online learning called the “Sloan Semester,” named for the sponsoring Alfred Sloan Foundation; a consortium of 153 colleges and universities reacted quickly to create an online course catalogue of over 1300 courses (Lorenzo, 2008). Then—as now—there was ample justification for alternative arrangements.” (Murphy, 2020)

“COVID-19 has highlighted the problem of the management of school lessons and learning processes worldwide, among issues. Technology can certainly be of support in this regard.” (Ferri, Grifoni, Guzzo, 2020) “The adoption of online learning in a situation of emergency represents a need, but it has also stimulated experts, policymakers, citizens, teachers and learners to search for new solutions. This is producing a shift from the concept of online learning to emergency remote teaching, which represents “a temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances” (Hodges, Moore, Lockee, Trust, Bond 2020). As stated by UNESCO Director-General Audrey Azoulay: “We are entering uncharted territory and working with countries to find hi-tech, low-tech and no-tech solutions to assure the continuity of learning”. (Rudnick, 2020) For this reason, new challenges and opportunities at a social and technological level may emerge. It is

an experience that enables us to reflect on the different approaches and lessons learned in different countries and additionally provides an opportunity to find new solutions. In fact, greater reflection on and study of social challenges related to the current pandemic and more generally to global crises are necessary.” (Ferri, Grifoni, Guzzo, 2020)

This very active application of new educational method of e-learning gave a great opportunity for the scientist to analyze the reactions of the society for this newly created situation. Moreover, big steps, movements happen in the history of the education. The education is moving on different platforms, it is happening online, not in present mode. The experiences of these activities can highly influence our future education at school.

3 Problems with Using E-learning Method within Emergency Situations

This work concentrates on e-learning educational method and on its practical application. We analyze how and with what kind of problems were e-learning methods used in Central Europe, concretely in Slovakia and we compare it with the EU average results.

We have used mainly qualitative research method, we have sent questionnaire to various teachers of elementary, high school and universities in Slovakia, and they were asked about their experience with the educational method of e-learning.

Our questionnaire has perfectly showed the practical existence of the negative/positive sides of e-learning educational method in emergency situations. We have received 204 responses from teachers all around Slovakia, they were asked about their experiences with e-learning during COVID-19 pandemic in 2019/2020 academic years.

Our respondents were mostly female and between 36-55 years. A little bit more than a half of the respondents (50,25%) had already have experience with e-learning educational methods in practice.

Fig. 1: Previous Experience



Source: Questionnaire, own elaboration

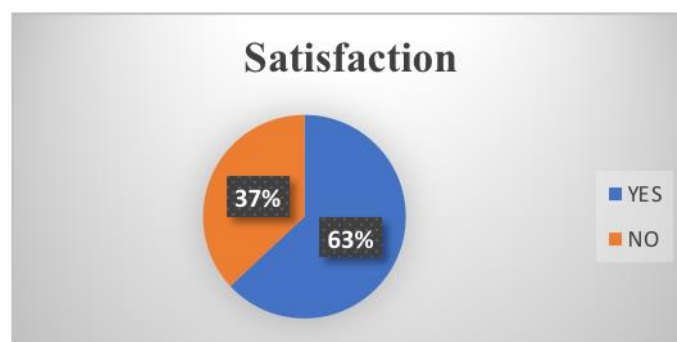
Also, less than half, only 45% of the respondents had problem with replacing his/her workplace to their houses, to teach at home via computers, laptops, tablets, etc. What is very positive for us, that 63% of the responding teachers were satisfied with the new learning method.

Fig. 2: Difficulty to work from home



Source: Questionnaire, own elaboration

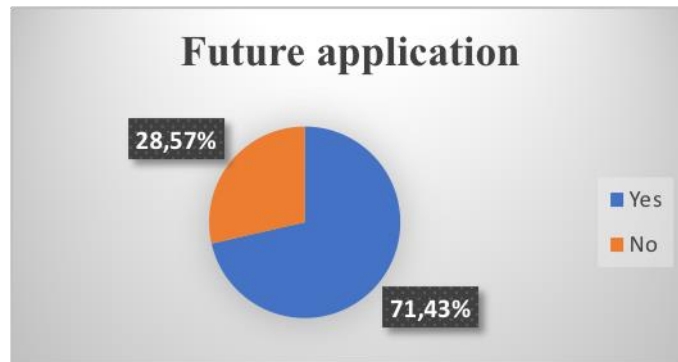
Fig. 3: Satisfaction



Source: Questionnaire, own elaboration

Furthermore, we have asked our respondents, if they would like to use e-learning education methods, or combine them into their daily teaching activities. 71,41% of our respondents have replied that yes, they would like to use it in the future.

Fig. 4: Future application



Source: Questionnaire, own elaboration

The results of the survey in Slovakia have shown us the reality, how e-learning education method has worked in emergency situation. Teachers, schools were not prepared for these actions, however they could perfectly adapt the changing environment in case the pupils, students could learn and improve their skills.

The adaptation of e-learning method has been done in a positive way, since more than half of our respondents were satisfied with the usage of the educational method. Furthermore, they would like to use it in the future, during their teaching activities.

Conclusion

Our goal in the research paper was to collect data from teachers working in the Slovak republic, and analyze their experience with e-learning method during the COVID-19 pandemic. In the final part of the research paper, we would like to sum up the analyzed information, collected data and defined assumptions. We were working with the topic of e-learning educational method and its application in emergency situations.

We have used qualitative research method, concretely questionnaire form, what was sent to carious teachers employed at elementary schools, high schools, universities and other educational institutions in Slovakia. We have received 204 responding answers. Our questionnaire was concentrated on the experience of the usage of practical e-learning tools as the reaction for COVID-19 pandemic in Slovakia, in the time period 2020-2021. The questionnaire was prepared and available in two languages- Slovak and Hungarian- and contained 11 questions, where we asked about the gender, age, educational institution of our respondents. Our investigation and questionnaire were based on the survey made by School Education Gateway in 2020. (Survey on online and distance learning – Results, School Education Gateway, 2020) They have studied and collected data from the European Union

(4859 respondents). Our work is very interesting, since we compare the received results in Slovakia with the EU average.

According to the School Education Gateway this survey was extremely useful. “Almost every respondent reported challenges, the most frequent being access to technology, for both pupils and teachers, and increased workload and stress working from home. Several challenges related to supporting pupils were identified, together with their digital competence – and that of teachers.

Respondents feel that support in terms of more educational resources would help them meet the challenges, as well as clear guidance from the Ministry of Education, together with professional development, such as short courses on online teaching and opportunities for teachers to share resources, ideas and challenges.

These findings offer some early indications to policymakers and school leaders that the experience of distance/online teaching and learning, although challenging, may have lasting positive effects, opening up interesting possibilities for innovation and new ways of working, especially if supported by appropriate and timely professional development.”. (Survey on online and distance learning – Results, School Education Gateway, 2020)

In the case of the respondent teachers in Slovakia, the biggest challenges in e-learning were: the increased workload and stress working from home, low level of pupils’ digital competence, assessing and following pupils’ learning progress, supporting pupils with special needs and keeping all pupils motivated and engaged. The teachers considered as helpful factors a list of useful resources and a clear guidance from the Ministry of Education what would be welcomed and could be extremely useful during their experience with e-learning.

Furthermore, they were positively surprised by the flexibility, ease of use of e-learning tools and usefulness of this new educational method.

Finally, we would like to answer the following defined research questions:

- 1.Are/Were the teachers satisfied with the e-learning educational method?
- 2.Does/Did the teachers have any difficulties with replacing their workplace to their home?
- 3.Would the teachers would like to use e-learning educating tools in the future?

Are/Were the teachers satisfied with the e-learning educational method? According to our questionnaire analyzes, yes, the teachers are satisfied with e-learning educational method. More than half, 63% of the respondent teachers in Slovakia considered that e-learning educating method is useful and they are satisfied with its application.

Does/Did the teachers have any difficulties with replacing their workplace to their home? Our answer is no. With the analyses made by us, and according to the collected data in

Slovakia, only 45%, less than half of the respondent teachers had difficulty with practical use of e-learning tools.

Would the teachers would like to use e-learning educating tools in the future? Yes, according to the collected data and the analyses made by us, we can say that our respondents would like to use e-learning educating tools in the future and combine them with their present education at school. Concretely, 71,43% of our responding teachers consider e-learning as useful, and would like to applicate it in the future.

Furthermore, we need to emphasize that the received and defined sentences and facts cannot be generalized, since we have not asked every person working as a teacher in Slovakia. They are represented by 204 teachers, who have filled and answered our questionnaire.

Finally, we need to mention that our work can be very useful for educational institutions, for institutions working with the sector of education and also for the subjects, people situated in the mentioned sphere. Since this work is written in English, and studying the results of Slovakia compared with the EU average, it can be also useful and interesting for analysist and specialist from other countries of the EU. Moreover, this topic is very new and actual in the years of writing this work in 2021, it can interest various people working in or with this sector. Also, we can say that we could achieve and fulfil our defined goals in the research paper. We have successfully questioned various teachers in Slovakia about their experience with e-learning educational method in emergency situation. We showed the difference in the experience with e-learning of teachers in Slovakia, and compared is with the survey's results made by the School Education Gateway, where they have studied teachers' responses from the EU.

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