10.2478/vjes-2023-0007

Digitization of the Educational Environment-an Inevitable Change

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Abstract

Adapting the education and training system to technological evolution is a complex process necessary to prepare and improve human resources and an essential element of society's development, modernization, and innovation. New digital technologies are the direct way to make schools more attractive for students, more adapted to their needs and lifestyles, and more effective in developing skills and generating lifelong education. This article aims to answer the question, "What is the impact of digitization on the educational environment on the instructional-educational process?".

Keywords: *digitization, change, school organization, technological tools.*

JEL Classification: M15, O15.

Introduction

Digitization began to influence the world economy about 30 years ago with the spread of Internet connections and has increased its impact on society with the speed of connection and processing. A state's digitization level is directly proportional to its stage of economic development, the most significant innovations being made and supported for economic reasons [H et al., 2020]. The current digitization process is driven by the assimilation of information and communication technology advances in fields that integrate electronics and mechanics, cybernetics, and the creation of innovative machine learning software. The much more straightforward access of individuals to these innovations through the devices they own (IoT – the Internet of Things) also contributes to the expansion of digitalization and the new needs of the target groups of the technological offer, among whom are digital natives. These trends have been boosted by the changes that the pandemic lockdown has caused, hastening the migration of businesses to online solutions as part of an adaptation strategy. During this period, the suspension or even the disappearance of some jobs was compensated to a certain extent by creating new ones.

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The educational environment had to adapt according to the pandemic conditions. The digitization of education implies the transition from traditional methods and techniques to innovative methods and techniques, mediated by interconnection and knowledge transfer through experiment and multimedia educational resources, respectively, an evaluation of creative skills rather than short-term memory testing. The provision of IT equipment for the educational act and the volume of allocated funds depends on the state's economic development level. The level of education in society is reflected in economic development. We can see the emergence of a vicious circle in which a state that does not invest sufficiently and strategically in education is condemned to mediocrity, unable to achieve economic competitiveness.

And even if all the beneficiaries of the educational process had access to the same type of resources, such as high-performance workstations, top-notch computer programs, identical connection and processing speeds, or the same type of course, student performance would still differ depending on the effective use of to them, both by the teachers and by the students, by the skills and intelligence of each one. This fact demonstrates the exceptionally complex nature of the educational process. Any strategy in this area should go beyond the logistical side or the provision of material resources, strictly dependent on the allocated budget, and focus on the formation of digital skills, the development of logical thinking and, last but not least, the development of creativity and the innovation capacity of individuals.

There will undoubtedly be discrepancies in the level of development of communities and in the ability of individuals to adapt to the new, which is why the state will have to intensify both the educational support given to vulnerable communities, already far behind the current of digitalization, and to create programs of professional reconversion of adults [G et al., 2020]. And not only will curricula have to adapt to digitalization, but all actors involved in the education process, starting with teachers and ending with students. If education had to be suddenly adapted to the online reality imposed by the pandemic, with all that it entails (virtual classes, interactive platforms that also allow the posting of content and the pooling of resources, tests in digital formats, electronic catalog, etc.), in the long term long the obligation to keep this work format will disappear, leaving room again for the naturalness that involves classes with students in benches. But this situation does not automatically imply the abandonment of the use of multimedia educational material offered with the help of the Internet, but the preservation of everything that brought good online education: the use of electronic tools for Internet access, the search for information of interest and the discernment between reliable and dubious sources, the elaboration of reports from scientifically documented sources, access to knowledge stored in virtual libraries and on research platforms, exemplification with the help of photography or film, the use of creativity in the use of resources and above all, the collaboration between students in independent and voluntary work formats [K, 2020].

1. What is digitization?

In the simplest terms, digitization refers to the conversion of information or data into a digital format. This can be done by scanning, connecting to the network, or even taking a picture. Once information is digitized, it can be stored, accessed, and shared much more quickly than in its analog form. There are many benefits of digitizing educational materials and resources. First, it allows greater access to information. Students can now easily find and use digital resources from anywhere in the world with an Internet connection. Second,

digitization makes the exchange of information fast and easy. Teachers can share resources with colleagues or post them online for students to access. Finally, digital resources are often more interactive and engaging than analog ones. Students can work with multimedia content and learning tools that promote active engagement in course material [M et al. 2021].

Digitization changes the way of learning and paves the way for more innovative and effective educational practices. As more and more teachers adopt this technology, positive changes will be seen in how the instructional-educational process is carried out.

2. Educational digitization – between challenge and opportunity?

The digitization of the education system has had a profound impact on the way educational institutions operate. One of the most significant changes has been the way information is accessed and shared. In the past, textbooks and other static teaching materials were the main source of information for students. However, with the advent of digital technologies, students can access various dynamic and interactive learning resources online. This has resulted in a more engaging and enriching student learning experience [H et al., 2014].

Finally, digitization has also impacted assessment and feedback mechanisms in education. In the past, assessments were often paper-based and relied heavily on manual correction by teachers. However, with the help of digital technologies, assessments can be submitted electronically and scored automatically using advanced algorithms. This not only saves time, but also allows for more accurate and objective feedback to be given to students [D et al., 2016]. It cannot be denied that digitization has the potential to revolutionize the education system. However, several challenges must be considered when implementing such changes. These include ensuring that all students have access to the necessary technology and resources; training teachers to use new digital tools and resources effectively; addressing data privacy and security concerns [H & L, 2014].

3. Research study methodology

Digital technologies should be an integral part of an age-appropriate learner-centered educational approach and can provide new and innovative approaches to teaching and learning. Quality and innovative digital learning can be engaging and interactive, thus complementing lecture-based teaching methods and providing collaboration and knowledge-creation platforms. At the same time, digital technologies can facilitate access to knowledge and learning, and their use allows all training structures at different levels to be easily accessible and favorable to inclusion.

That is why the research study wants to answer the question, "What is the impact of digitization on the educational environment on the instructive-educational process?".

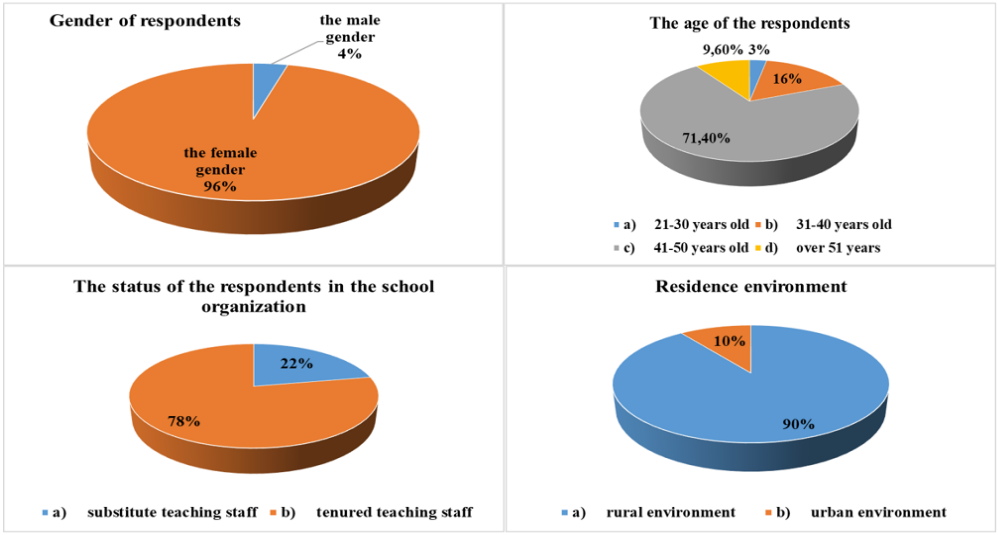
The survey unit is represented by teachers from high school units, from Dâmbovița County. The voluntary strategy was used, the accuracy of the questionnaire depended on the application of the questionnaire in objective conditions, the threshold of significance being 95%, having an error of 5%.

The study was conducted on a sample of 120 teachers from high schools in Dâmbovița County. Data processing was carried out with the help of the program SPSS (Statistical Package in the Social Sciences). The central objective of the study is to identify the impact of digitalization of the educational environment on the instructional-educational process.

The collected personal data were processed to create an overview of the surveyed sample (gender, age, school status, residence environment).

Graphics 1.

Personal data collected



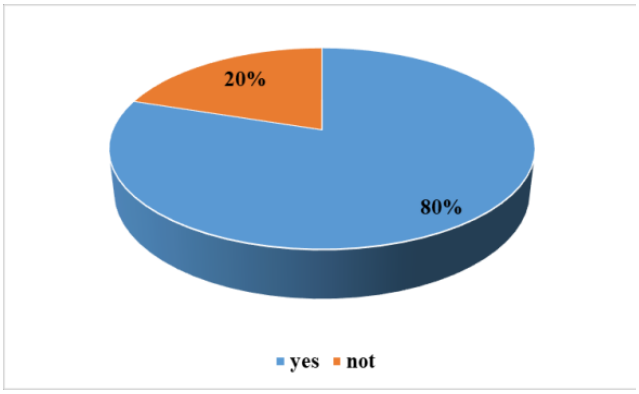
(Source: developed by the author)

Analyzing Graph 1, the personal data of the respondents can be observed as follows:

- according to gender, it is observed that the highest percentage is held by female respondents (96%) and only 4% are male; - according to age: 71.40% are between 41-50 years old, 16% between 31-40 years old and 9.60% over 51 years old; - depending on the status of the respondents in the school organization: 78% of the respondents are full-time teachers and only 22% are substitute teachers; - depending on the area of residence: 90% of teachers live in rural areas and 10% in urban areas.

Graphics 2.

Digital tools were further used in the instructional-educational process

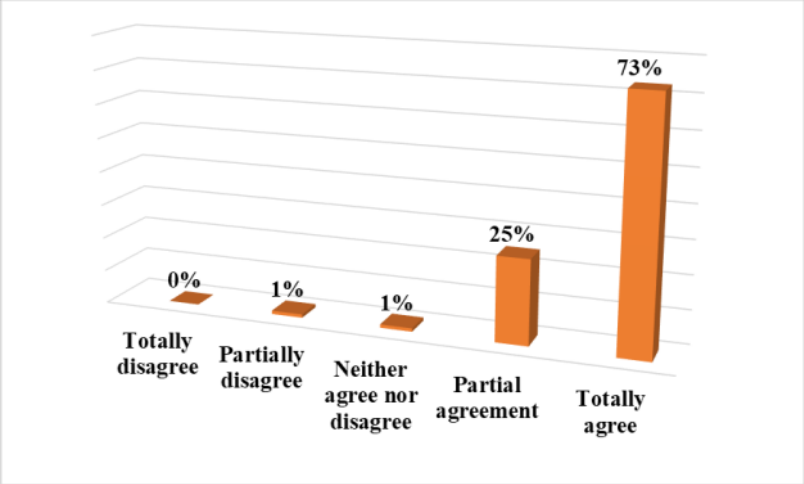


(Source: developed by the author)

In Graph 2, it can be seen that 80% of respondents still use digital tools in the instructional-educational process. When used effectively, technology can be a powerful tool to support student learning in the classroom.

Graphics 3.

The introduction of digital technologies into the act of learning captures the attention of students more easily

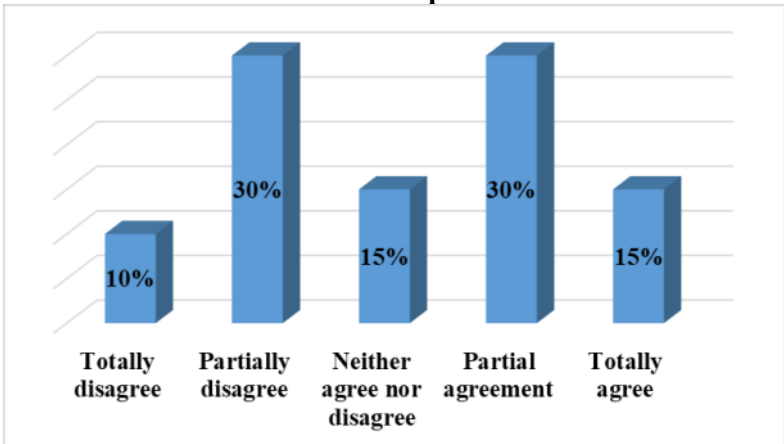


(Source: developed by the author)

Analyzing Graph 3, it can be seen that 73% of the respondents agree that the introduction of digital technologies in the act of learning captures the students' attention more easily.

Graphics 4.

Automatic grading with the help of advanced algorithms is advantageous in the student evaluation process



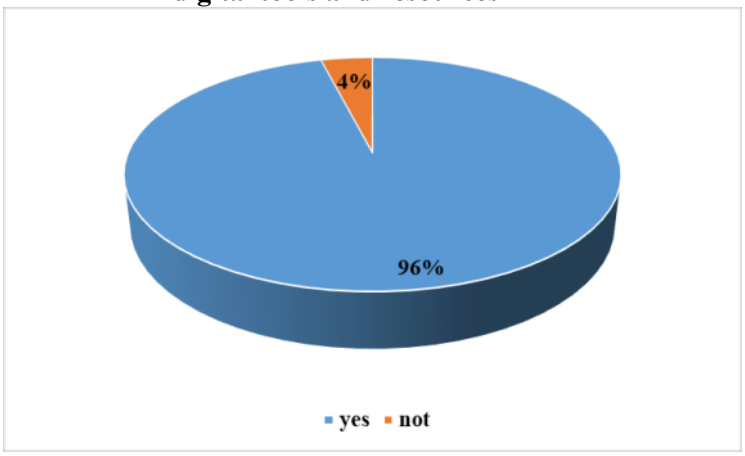
(Source: developed by the author)

From graph 4 it can be seen that a percentage of equality (30%) is found both in partial agreement with the respondents' opinion regarding the automatic grading of students with the help of advanced algorithms and in disagreement with this statement. Analyzing the data

collected, it can be concluded that teachers have different opinions regarding the process of evaluating the knowledge acquired by students.

Graphics 5.

Teaching staff participated in training courses for the effective use of new digital tools and resources

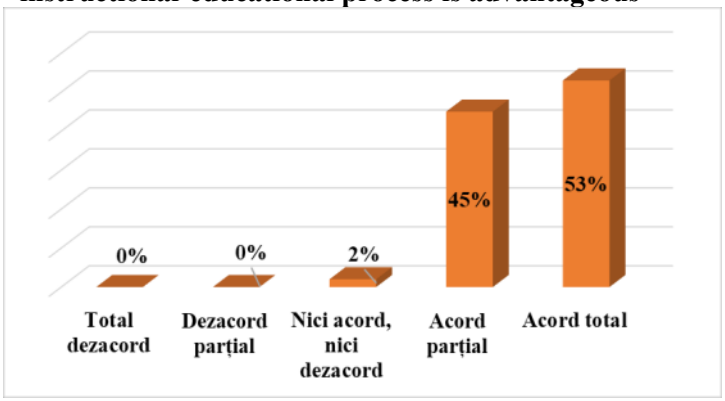


(Source: developed by the author)

Graph 5 shows that 96% of the respondents participated in training courses to use the new digital tools and resources as efficiently as possible.

Graphics 6.

Complementing traditional teaching methods with the use of technologies in the instructional-educational process is advantageous



(Source: developed by the author)

From Graph 6, it can be seen that 53% of the respondents fully agree with the statement that it is advantageous to supplement traditional teaching methods with the use of technologies in the instructional-educational process.

Study conclusions

Teachers can use technology in the classroom in many ways to engage with their students and enhance their learning. Technology can be a great way to supplement traditional teaching methods and help students learn innovatively. For example, by using online resources, teachers can provide their students with 24/7 access to information and learning materials. This is especially helpful for students who need help learning in a traditional classroom or with different learning styles.

Incorporating multimedia into lessons is another great way to use technology in the classroom. Teachers can use audio, video, and images to explain concepts and make them more engaging for students. In addition, multimedia can contribute to differentiated instruction by providing different ways for students to access information. [A, 2020]. Finally, there are several educational apps and games available that can be used to support classroom learning. These tools can reinforce concepts, develop skills and encourage student engagement.

Conclusion

Technology has been successfully implemented in education to promote learning and engagement in the classroom. For example, using tablets and apps in the classroom can provide students a more interactive and personalized learning experience. In addition, online resources and tools can supplement courses and assignments to help students better understand the course material. Finally, technology can also be used to assess student learning and performance more effectively. When used effectively, technology can play a major role in promoting success in the classroom [A & S, 2020].

Finally, digitization can also help make evaluation and feedback more efficient. Teachers can use online tools to track student progress and provide timely feedback. This would help identify areas where students need support so they can get the help they need to succeed.

In conclusion, digitization plays a major role in revolutionizing the education system. By introducing digital learning tools and platforms, educators are able to provide students with more engaging experiences that encourage collaboration and creativity. Additionally, it helps bridge the gap between access to education and resources for both rural and urban areas, enabling online learning opportunities that transcend geographic boundaries. As time goes on, we have no doubt that digitization will continue to increase its influence on education systems around the world!.

Acknowledgement: *This work is supported by project POCU 153770, entitled " Accessibility of advanced research for sustainable economic development - ACADEMIKA ", co-financed by the European Social Fund under the Human Capital Operational Program 2014-2020.*

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