**THE IMPACT OF DIGITAL TRANSITION ON EDUCATION**

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Un domeniu intens abordat în mediul academic îl reprezintă tranziția metodelor tradiționale de predare și învățare spre noile tehnologii și modul prin care acestea contribuie la dezvoltarea creativității și a performanțelor academice ale studenților. Tehnologiile informației și comunicațiilor, precum și cele digitale sunt utilizate pe o scară tot mai mare și în prezent există numeroase posibilități de interacțiune și colaborare în mediul digital, iar acest fenomen determină apariția a noi forme de implicare și creare de valoare. Scopul lucrării de față este de a demonstra modul prin care inovația, creativitatea, diseminarea largă a cunoștințelor și informațiilor științifice și tehnice sporesc potențialul de creștere și competitivitate academică.

Cuvinte cheie: tehnologie, educație, digitalizare, evoluție, succes

An area of intense academic focus is the transition from traditional teaching and learning methods to new technologies and the way they contribute to students’ creativity and academic performance. Nowadays, information and communication technologies and digital technologies are used on an increasing scale and there are many opportunities for interaction and collaboration in the digital environment, which is leading to new forms of engagement and value creation. The aim of the present paper is to demonstrate how innovation, creativity, and extensive dissemination of scientific and technical knowledge and information enhance the potential for academic growth and competitiveness.

Keywords: technology, education, digitisation, evolution, success

**The need for innovation in education**

New ways of using technology and teaching methods can really help with learning and training, but sometimes they do not work as well as we hope. Some online courses are not completed by a lot of people, and sometimes students do worse when they use computers instead of books. This might be why people have not started using advanced technologies as much. It is harder to know if they can bring good things for students, teachers, and schools, and it is also hard to understand all the risks, costs, and benefits of trying new things.

There continues to be rapid growth in digital learning and the continuously developing technology market, which means it can be difficult to know what is right and what is wrong. Often, the early purchase of infrastructure can be costly before a return on investment is realized. New online learning is also changing the boundaries between formal and non-formal education and training and massively increasing the possibilities for individual learning, but this creates risks for students in terms of how such learning should be validated and by whom.

When someone learns things on their own, it makes us think about how we can be sure that what they learned is true and correct. Nowadays, people are still figuring out how to do this in different parts of the world. People come up with new ways to check if someone really learned something, but it is still important that these new ways are connected to official qualifications that are recognized by the government. Countries that let people learn in their own way and give them chances to prove what they already know might be good at dealing with these new challenges.

A more systematic and interconnected approach is needed to identify the pedagogical costs and benefits of innovation and digital learning technologies and to determine their efficiency and effectiveness. Intermediary structures (new or established on existing ones) are needed that can help coordinate and organize teacher and trainer engagement with new technologies to maximize their benefits and act as knowledge management organizations that can reference good practice.

The ways we learn and teach are changing because of new ideas and tools. Teachers and trainers play an important role in this process. It can be hard for them because things are different than before, but there are also new and exciting possibilities. Technology helps teachers and trainers work together and plan lessons. Some teachers and trainers are worried that these changes will not be accepted by schools or universities.

Teachers and trainers need skills and approaches to be innovative and, in the face of the scale of change facing vocational education and training, there is now a greater need for effective initial training and continuing professional development. Supportive environments in education can provide clear direction, space and time for innovation. This is provided that teachers and trainers get the support they need. There are many opportunities for virtual and physical learning through blended learning techniques and the development of new forms of social learning through online platforms.

At the same time, the development of networks and communities of practice can enable teachers and trainers to share experiences and expertise on instructional methods, teaching and learning, and digital tools.

Work-based learning is very important in the process of acquiring practical, experiential, and vocational skills to determine how digital tools can best support work-based learning, for example, by making greater use of technologies such as virtual and augmented reality and related artificial intelligence.

Work-based learning, as a form of education and training, is well placed to respond to wider environmental, social, and economic challenges, as it has the potential to meet new skills and provide experiential and practical learning either in schools or in companies or other workplaces, particularly for apprentices. It can therefore support not only technical and job-specific skills but also transversal skills needed for innovation.

A key challenge is therefore to what extent education and training programs should integrate digital learning into their curricula. The Pandemic has shown that there are variations between sectors in the use of digital tools. While they can reduce the unit costs of learning and provide new ways of teaching/training and assessing students, it is questionable how much they can replace real-life practical experiences.

There is the possibility for work-based learning to make more use of digital learning that simulates practical experiences using virtual and augmented reality. In addition, there is also the possibility of improving cooperation and dialogue between education and training providers and companies through the joint use of digital tools for learning and training (especially between teachers and trainers within a company). However, it is important that the pros and cons are carefully weighed and that the optimal mix between real-world and virtual experiences is achieved. Work-based learning with projects helps develop soft skills, and digital platforms can bring people together with different subjects of interest. Overall, digitisation offers an opportunity to rethink the way education and training providers cooperate with businesses, which still have the greatest access to the latest technologies.

**Requirements of the digital transition in education**

As mentioned above, the last few years have brought major developments in the digitisation of education. More and more companies are offering digitised resources for learning. In addition to interactive platforms and educational games, there are also textbooks in digital format.

This facilitates the teaching process, as the teacher can access hundreds of resources from anywhere, provided they have an internet connection. On the other hand, technology in education can also be used without internet access.

Accordingly, technology in education can easily become an integral part of teaching and learning. Using simple and accessible applications, teachers can use technology in education to make lessons more interesting and engaging.

**Skills required by the digital transition**

Teachers need to learn about the latest techniques they can use in the teaching process in order to use technology in education. This is not difficult as the internet is full of tutorials and articles that they can use for support and guidance.

Another aspect to be taken into account is the level of students’ digital skills. If they are not doing very well, it is not a major problem. Children and young people learn very quickly and are curious about new things. So, when the teacher uses a new method or platform in the teaching process, they will quickly get used to it and be able to use it easily.

Consequently, using technology in education can start from a low level of digital skills, but as time goes by, the desire to learn more will come naturally.

**Benefits of technology in education**

Technology in education has the primary advantage of diversifying teaching methods. Through the use of educational presentations, videos, or online games, the teacher gives students the opportunity to learn about the topics discussed in innovative ways that involve them as well. In what follows I will highlight the most important uses of the new technology:

* through different multiplayer games and apps, students can interact with each other. In this way, they will be able to work as a team to achieve the aim of the exercise.
* using technology will make it easier for teachers to create worksheets. Using a computer, they can easily change the structure or phraseology in the assignments they prepare for the students. For example, in the case of changing jobs, the teacher can add or remove jobs from the worksheet to keep up to date with the latest jobs. And, in this way, they do not have to recreate the whole worksheet.
* when solving tasks on an application, they are generally more concise. Namely, they often use grid or short answer questions.
* technology increases student engagement. When technology is included in everyday lessons, students are expected to take more interest in the subjects they are studying. Technology offers various opportunities to make learning funnier and more enjoyable as it presents the same information but in more interactive ways.
* technology can enable more dynamic cooperation between students and between students and teachers, which can be difficult to achieve in a conventional teaching environment.
* technology improves knowledge retention among students. It can help empower dynamic cooperation in the classroom, which, in addition, is a significant factor for knowledge retention and long-term memory improvement.
* different types of technology can be used to diversify learning tasks in the classroom and to choose what works best for students according to their age.
* technology helps develop and improve new skills. By using technology in the classroom, both teachers and students can develop essential skills that are fundamental to the 21st century.
* students can improve the cognitive skills that they will use later in their careers. Modern learning through technology is about working with others, solving complex problems, basic reasoning, creating different types of communication and leadership skills, promoting creativity and improving productivity. Furthermore, the use of technology in education can help create many practical skills, including creating interactive presentations, learning to differentiate between safe and unsafe sources on the internet, composing emails, etc.
* technology helps students stay up to date with new technological advances. Students who are able to keep up to date with the latest technological advances will be able to improve their knowledge of different areas and develop new skills that they can use in the future. These students will also be more likely to find employment, as they will have a better understanding of recent trends in various fields.
* technology helps students be prepared for careers in the future. In an economy that is increasingly driven by data, algorithms and artificial intelligence, technological literacy underpins many industries and careers, many of which are rewarding. From computer programming and software development to engineering, many jobs require a high level of technological competence.
* technology simplifies education and distance learning. The COVID-19 pandemic has forced many teachers and students to rely on distance learning tools such as Zoom, Microsoft Teams, Blackboard, etc. These and other examples of educational technology tools make distance learning possible no matter where people are at the time.
* technology offers students flexibility and support. Two students sitting at the same desk will not learn in the same way or at the same pace. In a conventional classroom setting, this can result in students being excluded, they are left behind or not challenged enough to pay attention in class. Technology allows teachers to create dynamic and innovative lesson plans combining many activities and topics, from games and interactive presentations to artificial intelligence-assisted learning, worksheets and digital textbooks. By means of new and flexible ways of learning, educational technology can make it easier for teachers to meet the diverse needs of their students.
* when technology is used properly, it has the potential to make lessons more memorable, accessible and enjoyable.

From facilitating distance learning to preparing students for technology-driven careers, these are just some of the benefits that technology in education can bring. Regardless of the taught subjects, the strategic use of educational technology can enhance any curriculum, making it easier and more exciting for students to excel.

**Drawbacks of technology in education**

The first disadvantage of technology in education is that in this context children work with certain abstract notions. This is difficult for students up to grade 4 because they have difficulty recognizing a notion that is not concrete, or tangible.

If students were to use their personal phones to complete these tasks, they might be distracted. Because they are used to using that phone for other games and relaxing activities, chances are they will forget that they need to pay attention and start playing games on their phone or doing something else entirely. The solution to this problem would be to use phones or other devices only during class time.

We can see how our society is advancing at an unprecedented pace in the technological field. Just reflecting on the last few years of high-speed internet access, smart mobile phones, smart watches, etc., it is not surprising that the use of technology for training and education purposes has gained more and more importance. In order to adapt to our own modern digital needs, it makes sense to incorporate technology into education. Beyond adaptation, properly used technology can actually lead to more effective learning, preparing young people to face career challenges.

**Conclusion**

All things considered, the use of technology in the educational process has many advantages, especially if we take into account the large percentage it has in our lives. Therefore, teaching and learning through technology can be regarded as a huge benefit.

Hence, technology in education is valuable because in this way students will be able to use something known in order to learn new and interesting things. It can start from five minutes once a week to embedding online platforms in every course.

In recent times, there has been an increasing emphasis on the need to develop education systems that also train young people in practical skills and competences, as it is insufficient to assimilate a large amount of information that students do not know how to apply and use in their daily lives.

There is now more and more talk about globalisation in all fields, but globalisation in education would mean breaking down barriers between students and opening up new perspectives in teaching practice.

There are students who are open to knowledge and want to learn this field of IT technologies, they use it and prefer it instead of traditional methods, but the way it is used and enhanced depends on the teacher’s mastery and the way each teacher knows how to combine methods with teaching resources in the success of the didactic approach.

By using modern technology and e-learning platforms, students benefit from improved skills in graphic organization, writing, reading, accurate calculations, etc. It also gives students flexibility in thinking and organizing working time, helps them to concentrate throughout the lesson, increases students’ interest in the lesson, and encourages them to work individually and in groups.

Education can benefit from openness to concrete experiences and projects, new learning tools and materials, and open educational resources. Students can gain more autonomy through online collaboration. Access to and use of digital technologies can help to reduce the learning gap between students from advantaged and disadvantaged socio-economic backgrounds. Personalised teaching techniques increase student motivation by focusing teachers’ efforts individually on each student.

**Bibliography:**

1. Adăscăliţei, A., (2007), *Instruire Asistată de Calculator*, Editura Polirom, Iași.
2. Bates, A. W. (2015). *Teaching in a digital age,* https://www.tonybates.ca/teaching-in-a- digital-age/, *retrieved on 06.08.2023*
3. Cerghit, I., (1997), *Metode de învățământ*, Editura Didactică și Pedagogică, București.
4. Cerghit, I., (2002), *Sisteme de instruire alternative și complementare. Structuri, stiluri și strategii*, București, Editura Aramis.
5. Cucoș, C. (2016), *Pedagogie*, Editura Polirom, Iași
6. Făt, S., Labăr, A., (2009), *Eficienţa utilizării noilor tehnologii în educaţie. EduTIC 2009. Raport de cercetare evaluativă.* Bucuresti: Centrul pentru Inovare în Educaţie, București.
7. Goleman, D., (2001), *Emotional Intelligence*, *The Emotionally Intelligent Workplace*, ed. Cherniss, C. and Goleman, D.
8. Herlo, D., (2005) *Tehnologie informațională computerizată,* Ed. Universității Aurel Vlaicu Arad, p.71-73.
9. Ionescu, M., Radu, I., (2004), *Didactica modernă,* Editura Dacia, Cluj Napoca;
10. Watson, J., (2012), Blending Learning: The Convergence of Online and Face-to-Face Education Promising Practices in online learning, https://files.eric.ed.gov/fulltext/ED509636.pdf *retrieved on 06.08.2023*