THE EFFECT OF NEW TECHNOLOGY ON IMPROVING STUDENT MOTIVATION IN THE LEARNING PROCESS[1]

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ABSTRACT

New technologies are gaining more and more importance in the education system after the pandemic. They enable distance learning, communication, joint collaboration on projects, and at the same time have a favorable effect on student motivation, their academic performance, and above all, they make learning fun. Digital learning environments that include a wide range of interactive media and activities help students better understand the content they study and to make decisions, thereby further acquiring skills such as autonomy and digital literacy. Immersive technologies allow students to get to know and visually experience places, people or objects from their lectures, and to strengthen their understanding of the lesson by interacting with them. The role of the devices of these technologies is particularly significant in increasing the motivation of students who have problems with learning. Previous experiences have shown that they achieve significantly better results on tests through these new digital learning methods. Another advantage of new learning technology devices is that they significantly reduce cognitive fatigue, as they successfully integrate virtual elements into real-world scenarios. In the modern digital world to which children belong, it has become very difficult to motivate them in old-fashioned classrooms and by using traditional learning methods. Although new technologies in the education sector have not yet been implemented everywhere as a standard means of learning, it is undeniable that their benefits are significant and that with additional development they will very soon become integral parts of the learning process.

Keywords: Student motivation, Immersive technologies, Learning process.

INTRODUCTION

Today, it is difficult to imagine how a person would function in modern society without the use of Internet-based technologies. Daily interactions that take place in the digital environment permeate all spheres of society, enabling users to communicate, educate, entertain and do business (Baltezarević, 2022). Although technology has come a long way, some would contend that by utilizing these developments for our benefit, we have not lost our humanity. Because living standards tend to be higher, there is a noticeable rise in the ability to enjoy life in countries that rely more on automated production. Although manufacturing has been the primary focus of automation thus far, we should anticipate that the service, innovation, health, and education sectors will also experience automation in the future (Safieddine & Baltezarević, 2016).

Technology-based learning occurs anywhere, at any time, and not only in the classroom. In addition to the classroom, other settings include the library, school clubs, active learning classrooms, interdisciplinary and transdisciplinary contexts, peer-to-peer classes that communicate across national boundaries, and collaborative work facilitated by virtual environments can all be used to integrate and mobilize the knowledge that has been acquired (Meirinhos et al., 2019). A number of empirical studies

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have proven the positive effects of technology use on students' motivation, indicating that traditional methods of teaching and learning in higher education no longer seem to motivate students. Academics contend that cutting-edge teaching techniques, such integrating technology, can boost student engagement and enhance learning (Negoescu & Mitrulescu, 2023). Although the positive effects of new technologies on increasing student engagement and motivation in the learning process are indisputable, it is still necessary to overcome obstacles related to the high cost of implementing these technologies, as well as the insufficient digital literacy of educators.

NEW TECHNOLOGIES AS A MEANS OF INCREASING STUDENT MOTIVATION

A multitude of elements impact the multifaceted and intricate process of learning. Though concepts are interrelated, these components fall into three categories: cognitive, social, and emotional learning (Stamatopoulou et al., 2017). Motivation necessitates activity, either physical or mental. Goals provide fuel and direction to action. The emphasis on the importance of goals is shared by cognitive perspectives on motivation. Goals may not be well defined and may vary with experience, but the important is that people have something in mind that they want to achieve or avoid (Pintrich & Schunk, 2002).

Teenagers are more dependent than ever on technology for their academic work, and their usage of it has increased during the pandemic. Through its appropriation in the monitoring function, technology improves the abilities and attitudes that result in changes in the student, enabling the promotion of autonomy and voluntary action in the classroom (Karapanos & Hawlitschek, 2021). The education sector has been significantly impacted by the swift expansion of Information and Communication Technology (ICT). Put another way, ICT has been able to develop easy and creative learning settings that are suitable for extending the educational process while also advancing the pedagogical goal of learning (Myserli, 2015). Students that use technology to learn are reportedly more involved and invested in their education, according to research done in classrooms with lots of technology. An atmosphere that fosters cooperation, synergy, and dynamic, hands-on learning is created by technology. In comparison to traditional instructional techniques, technology-rich classrooms encouraged student sharing and raised awareness of self-motivated learning (Li et al., 2010).

However, not every student is driven to use technology for learning. Students who used technology freely on their assignments performed better than those who were made to utilize it. This points to an important component of technology integration. Students will not always be motivated to learn or encouraged to participate fully in the learning process if technology is utilized for its own purpose. Therefore, digital tool integration needs to be done with skill and with careful planning (Granito & Chernobilsky, 2012). It is important to remember, though, that students' potential mistrust of the use of technology in the classroom may stem largely from worries about inadequate teacher preparation, which may be connected to both the relatively high average age of teachers and their lack of experience with the tools. The provision of suitable teacher training, including specialized seminars, is one way to address this issue and enable educators to use the new information to enhance the educational process (Machairidou & Antoniou, 2018). Activities utilizing technology should have well-defined goals that pique students' interest and augment their motivation to engage (Yang & Wu, 2012). The possibilities of new technology and how they might be incorporated into the classroom must be explored by educators. However, they shouldn't utilize them merely because others do or out of concern that they'll be seen as outdated and resistant to change (Duarte, 2017).

The application of artificial intelligence (AI) in a variety of sectors, including education, has grown (Wollny et al., 2021). The value of AI, as a rapidly developing field, is projected to reach up to 740 billion US dollars by 2030. While low-level, repetitive activities have shown these technologies to be highly effective in reality, it is still true that human-machine collaboration yields the best performance gains (Baltezarević, 2023). The study discovered that artificial intelligence (AI) can enhance students' learning experiences by personalizing content delivery and offering adaptive feedback. The study concentrated on the application of AI for intelligent tutoring systems, student performance prediction, plagiarism detection, and personalized learning. By forecasting future achievement and offering insights into student performance, AI can also help with decision-making. However, issues like data privacy and the possibility of algorithmic biases raise ethical questions concerning the use of artificial intelligence in education (Cho et al., 2021). According to the study, the chatbot was successful in increasing student

engagement, lightening the strain on teachers, and giving each student individualized support (Essel et al., 2022).

Through engaging images, immersive technology can help students understand abstract topics. However, immersive technology also benefits educators, supporting professional learning that enables teachers to employ dynamic examples to convert theory and research into practical applications (Eschoolnews, 2023). Higher levels of engagement, better comprehension of abstract concepts, and higher retention rates are displayed by students who are exposed to virtual reality-enhanced learning experiences (Kazu & Kuvvetli, 2023). A training/learning approach called immersive learning enables students to engage in interactive, digital (or virtual) learning in real-world circumstances. Etymologically speaking, this kind of education encourages social connections in the actual world by projecting feelings and behaviors onto the student (Anand, 2023). The advantages of immersive learning are widely known and simple to comprehend: learners can safely make mistakes and experience multisensory and kinesthetic learning when they immerse themselves in a simulated environment. According to PWC (PricewaterhouseCoopers), using virtual reality (VR) enhanced learners' attentiveness and learning speed by 4 times, while also increasing emotional connection by 3.75 times and confidence to apply what learners had learned by 2.75 times (Weforum, 2023).

Research has demonstrated that the motivation and involvement of students in their learning processes are also impacted by the usage of immersive technologies in the classroom (Huang et al., 2017). In addition to boosting motivation, the advantages of implementing immersive technologies in the classroom can also help with communication, comprehension of difficult material, and individual flexibility or adaptability (Häfner et al., 2018). Through virtual reality, students with disabilities can visit locations that would be difficult or impossible to reach otherwise. With the ability to stop an experience whenever they feel uncomfortable, virtual reality technology may be advantageous for students with social difficulties (I3-Technologies, 2023).

CONCLUSION

In today's modern society, focused on technology in almost all fields, it has become very difficult to motivate students in the learning process using traditional methods. This is certainly a big challenge faced by educators and the entire education system. A big barrier to the implementation of new technologies in classrooms is the high price, which can significantly burden the budget of an educational institution, as well as the insufficient expertise and digital literacy of lecturers. Learning with the help of technological devices improves communication, cooperation, engagement and motivation of students. In the learning process, it is certainly much better to visually experience what is being learned, than to only discuss and think abstractly about it. Immersive technologies make it possible for students to virtually visit historical places (for example) and to interact with people or objects that have not existed in reality for a long time. This possibility is especially useful in the case of students with physical disabilities. On the other hand, new technologies can also be used to simulate experiments or trainings in a virtual environment, such as surgical procedures in the case of medical students. In any case, from a review of the available literature, it can be easily concluded that new technologies represent the future of education. Over time, the price of technological devices will become lower, and therefore more accessible to educators and students. As for obstacles related to the digital literacy of lecturers, as an important barrier, there are already many examples in practice where, by organizing adequate courses, such shortcomings have been successfully overcome.

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