

## THE IMPACT OF TECHNOLOGY IN EDUCATION

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**Abstract:** Education is defined as any action or experience that shapes an individual's mind, character and physical abilities. We all know that education is necessary and very important, because education helps the younger generation to be educated fairly and responsibly. In modern times the influence of information and communication technology (ICT) is increasingly becoming widespread in many social spheres. This implementation does not override education either. Education and knowledge are the basis of every human development and they are the fundamental right of every human being. The technology is affecting human life more and more everyday. People cannot imagine their life without technology. Technology is also affecting even students at schools. Recently, some teachers, who want to be the lessons more attractive, have come up with new methods in the field of teaching, one of them is exactly technological teaching. Education Technology plays a very important role in the field of education, especially in this 21st century. In fact, computer technology has become easier for teachers to transfer knowledge and for students to obtain it. In recent years, when applications of technology such as video projector, smart board, computers, software, internet, tablets, mobile etc. have been introduced into the education system, teaching resources have changed considerably. Methodists think there are many advantages to using technology in the classroom, for example: it makes the student more interested in the topic of instruction, reduces learning time and provides opportunities for nontraditional learning. The use of technology has made the process of teaching and learning more convenient. Tablets are replacing textbooks, and students can research everything they want to do on their 'smartphones'. Social media has become mainstream and the way we use technology has completely transformed the way we live. Educators also recognize the importance of developing these technological skills in students so that they are prepared to get a job once they finish their education. The impact that technology has had on today's schools has been significant. This widespread adoption of technology has completely changed how teach learn and students learn. By integrating technology into the classroom, they are educating students for a more successful life outside of school. Students prefer technology because they believe it makes learning more fun. Subjects that students find challenging or boring can be made more interesting with virtual lessons, via a video, or when using a tablet. Today's technology enables students to learn at their own pace. For example, almost all applications allow individualized instructions. Students can learn according to their abilities and needs. This form of teaching is also great for the teacher because it gives him time to work individually with struggling students.

On the other hand, technology does not guarantee useful teaching / learning, even inappropriate uses of it can make learning more difficult. This is the case, for example, when the student spends most of his time selecting and writing colors in his assignments rather than planning, writing and reviewing his ideas about the assignment given.

**Keywords:** education, technology, students, teaching, learning.

### 1. INTRODUCTION

Technology has impacted almost every aspect of life today, and education is no exception. In many ways, technology has profoundly changed education. For one, technology has greatly expanded access to education. In medieval times, books were rare and only an elite few had access to educational opportunities. Individuals had to travel to centers of learning to get an education. Today, massive amounts of information (books, audio, images, videos) are available at one's fingertips through the Internet, and opportunities for formal learning are available online worldwide through the Khan Academy, MOOCs, podcasts, traditional online degree programs, and more. Access to learning opportunities today is unprecedented in scope thanks to technology. Opportunities for communication and collaboration have also been expanded by technology. Traditionally, classrooms have been relatively isolated, and collaboration has been limited to other students in the same classroom or building. Today, technology enables forms of communication and collaboration undreamt of in the past. (How Has Technology Changed Education?)

### 2. 7 WAYS TECHNOLOGY IS IMPACTING MODERN EDUCATION

Technology in the classroom can be so much more and so much better than the stereotypical cell phone going off in the middle of class. Technology can actually be a major tool, both in terms of pedagogical resources and in terms of connecting with the younger generations.

The top seven important concepts to understand when examining the use of technology for educational or instructional purposes include:

- 1) Active engagement with the learning material - Technology is interactive, and students learn by doing, researching, and receiving feedback. This helps students become passionate about what they are learning. For example, they may study geography using interactive software such as Google Maps or Google Earth, instead of looking at a picture.
- 2) Use of real-world issues - This model encourages the use of real-world problems in the classroom. By using the Internet, students can research real issues happening at that moment that are related to the classroom curriculum. This helps students understand that the lesson being taught refers to real problems and real people.
- 3) Simulation and modeling - Simulation software helps to bring to the classroom real activities that would be impossible to see without technology. By using specific simulation tools, students can see planetary movements, how a tornado develops, or how dinosaurs lived. Modeling software offers similar features. Instead of the static models used in previous decades, these tools allow students to see the dynamic characteristics of models.
- 4) Discussion and debate boards and forums - By using the Internet or software tools, students can create online groups, Web pages, and virtual communities that connect them in real time with students and teachers anywhere around the world. They can receive feedback from their teachers and share questions and concerns about their lessons. By listening to and reading about others' opinions and feedback, students refine their thinking, reaching higher levels of comprehension and deeper understanding. Online communities also present the opportunity for students to interact with others around the world.
- 5) Working groups - Technology-focused education doesn't involve a class of students learning by themselves, staring at a book. Working groups foster group activities, discussions, and debates, and they encourage the establishment of democratic group dynamics.
- 6) Coaching - Teachers play more of a coaching role these days. They aren't just instructors who deliver a lesson. Rather, they support and guide student activities as coaches do. They provide feedback and coaching to the class so that students receive the appropriate information and academic training. Teachers guide students in developing skills in problem solving, research, and decision-making.
- 7) Formative assessment - Teachers ensure that students are learning not only the concepts, but also how to use the technology resources they have. Technology-focused activities mostly require critical-thinking and problem-solving skills. Teachers work as facilitators, providing constant feedback, enabling students to achieve deeper levels of understanding. Technology in the classroom is like a foray into modern invention – and you get to be the expedition leader. (LYNCHMARCH, 2017)

### **3. TECHNOLOGY CHANGING TEACHER'S ROLE**

According to (Academy of Finland, 2015), along with technological development, traditional teaching methods have been challenged by various technologically enhanced teaching and learning methods. This trend has received mixed reactions: On the one hand it is feared that these new technologies will replace teachers altogether. On the other hand, the expectations towards technology can also be over-optimistic; that it will solve all the problems of learning. A recent Finnish-Swiss-Belgian study provides new information about the changing role of the teacher in technology-supported learning environments. According to the research findings, the use of technology changes the role of the teacher from a traditional knowledge provider rather into a facilitator guiding the students' learning processes and engaging in joint problem-solving with the students. In addition, technology offers a range of new types of learning possibilities.

"With the help of tablets and smartphones, new ways have been discovered which support the cooperation between education and the world of work. For example, videos recorded at the workplace can be used as a learning resource at school," says adjunct professor Raija Hämäläinen from the Finnish Institute for Educational Research

### **4. HOW TECHNOLOGY HELPS TEACHERS TO MANAGE THEIR CLASSROOM**

Technology is widely available to students in classrooms across the United States, a new study shows. In the new survey, digital learning tools means technology. It includes websites, application software programs, and online classes, games, videos and programs. The survey found that classroom technology gets high marks from educators. At least eight in 10 teachers and school administrators said they see great value in using classroom technology tools now and in the future. (Study Finds Educators, Students Agree: Technology Has Value, 2019)

According to (Bhaskar, 2013), students will experience many physical, intellectual, emotional and social changes in their early age, so they need to feel structured and safe to perform best in their learning.

The teacher plays an essential role in every student's education, behavior and development. In the present competitive environment, it's a tough task for a teacher to manage a classroom by concentrating on every student. Classroom management is the process of ensuring that classroom lessons run smoothly despite the disruptive

behavior of students. Technology nowadays makes everything easy and effective. It helps teachers in managing their classroom very efficiently. Let's learn how technology plays an important role in managing a classroom.

The most important thing a teacher needs to have is self-confidence. He has to believe in himself to influence students in a great manner. The way you present yourself with confidence surely matters. Classroom management involves a vast procedure from seating arrangements & taking attendance to personalized instructions. Below, we're providing you with information on some tech tools which will help you in managing a classroom.

Schoology - allows teachers to have access to better course management and communication for free. Schoology provides numerous mobile apps which will help you in managing the classroom, these apps can easily transform any classroom into 1:1 interactive learning environment if you implement BYOD (Bring-Your-Own-Device) in your school. Schoology helps you host your website and connect with your students in order to improve their learning outcomes.

Schoolfy - is a great educational platform that welcomes teachers from across the world in its community. It allows teachers to create their private social network and add students, parents, colleagues and others for collaboration. It provides many free tools that help teachers to set homeworks, send documents, create calendars and evaluate students' assessments.

Smart Seat - Smart Seat is an iPad app, which helps teachers to manage their classroom in the palm of their hands. Teachers can use it to create a virtual class, add students, their photos and other information. It helps you to remember students according to the seating arrangement, make notes on individual students and also export information to parents and colleagues.

TeacherVision - TeacherVision is one of the best websites which helps teachers to manage their classroom by providing students with an interesting and fun learning environment. It values a teacher's time and helps them optimize it. TeacherVision provides very good content and themes for each subject.

## **5. USE OF TECHNOLOGY IN TEACHING AND LEARNING**

According to U.S. Department of Education, technology ushers in fundamental structural changes that can be integral to achieving significant improvements in productivity. Used to support both teaching and learning, technology infuses classrooms with digital learning tools, such as computers and hand held devices; expands course offerings, experiences, and learning materials; supports learning 24 hours a day, 7 days a week; builds 21st century skills; increases student engagement and motivation; and accelerates learning. Technology also has the power to transform teaching by ushering in a new model of connected teaching. This model links teachers to their students and to professional content, resources, and systems to help them improve their own instruction and personalize learning. Online learning opportunities and the use of open educational resources and other technologies can increase educational productivity by accelerating the rate of learning; reducing costs associated with instructional materials or program delivery; and better utilizing teacher time. (Use of Technology in Teaching and Learning)

## **6. HOW TECHNOLOGY CAN (AND DOES) IMPROVE EDUCATION?**

Improving education is a huge issue for our society. Test scores, our perceived performance against different nations, and different elements have pushed education to the bleeding edge of national legislative issues, directly behind healthcare reform. Technology can be utilized to improve teaching and learning and help our students be successful. While everyone would love to see smaller schools and class sizes, technology cannot do that physically. However, technology can be a "force multiplier" for the teacher. Through the use of learning management systems (LMS) students can access online resources to get assistance on demand beyond the physical reach of their teacher. Technology can also extend education in another way. Education doesn't stop toward the finish of the school day. Students can access teachers, resources, and assignments via the web whenever and wherever they have an internet connection. For students who need to spend more time practicing a concept, online exercises and curriculum can also help them work at their own pace and still keep up with their peers. Though technology itself can be expensive, it can also help schools save money. Virtual field trips, electronic documents, email instead of printed memos, virtual labs, electronic textbooks, and the thousands of free online resources help schools save cash and still give students amazing educational experiences. (TrustRadius, 2019)

## **7. WHY TEACHERS DON'T USE TECHNOLOGY IN THE CLASSROOM?**

Some tech-savvy teachers encounter resistance from their colleagues who are not so keen to adopt new technologies, and according to one primary school teacher, if more teachers were more open to new tools or a particular app, then the school administration would probably get it for them.

Moreover, some teachers would love to have a specific device or app for a particular class that they are teaching, e.g. Physics, Maths, Biology, but because other educators don't know or don't want to understand the benefits or the

possibilities of that particular type of tool, they down-vote it or simply reject investing in them. The majority haven't been trained to properly use them or shine some light on how to effectively use these solutions to enhance their lesson plans. As a result, the hardware and apps don't get used and get forgotten. (Gläsel, 2019)

Using Technology In The Classroom Helps Students Learn In Different Ways

If you haven't been in a modern classroom lately, you might be surprised at the widespread changes in educational philosophy — much of which has been brought about by technology-based teaching methods. Teaching with technology is not only changing how our kids learn, it's also changed the physical design layout of classrooms as well. We will talk about different ways educational technology is impacting the design layout of the classroom.

1. Changing Nature Of Classroom Instruction - Instead, today's modern classroom floor plans are being reorganized into what is known as a "Flipped Classroom" layout, where students move between functional zones to participate in different learning activities, ranging from individual computer-based reading labs to small group project areas. Other common names used to describe this new pedagogical approach include Personalized Learning and Blended Learning.

2. Today's Digital Native Students Are Comfortable Accessing Information Online And Working Together Using Collaboration Tools - Today's classrooms need access to smartphones, tablets, and notebook computers (ideally with robust Wi-Fi connections) as well as access to collaborative software for group projects, and communication software to stay in touch when working on homework projects outside the classroom. (Using Technology In The Classroom Helps Students Learn In Different Ways, 2018)

## 8. THE FUTURE OF TECHNOLOGY IN EDUCATION

Professor Rose Luckin, co-founder of the Institute for Ethical Artificial Intelligence in Education, launched last year, helps steer developments in educational technology in a firmly ethical direction. She believes that while individual tools such as virtual reality (VR), augmented reality (AR) or will each play a role in the future classroom, close attention should be paid to the "over-arching intelligence infrastructure" as digital education develops. (Matthews, 2019)

## 9. THE IMPACT OF TECHNOLOGY IN EDUCATION IN KUMANOVO, NORTH MACEDONIA

According to a survey which was conducted in September 2019, students at high technical school in Kumanovo, technology is not only affecting daily life but it is also affecting education in general. By using technology, they said, the lesson is more attractive than the traditional teaching method. Moreover, they said that if they use technology they can get higher scores because by using technology in classroom students are motivated to learn and this is very important for teachers because they know the way how to motivate students. On the other hand, teachers said that sometimes technology is not the best way to use during the lessons because students can use it in an inappropriate way.

## 10. CONCLUSION

Technology provides a lot of positives argument and service for teaching. If technology is used properly, mobile devices and applications will help prepare students for their future careers. The Internet gives students instant access to information beyond what is in school textbooks. Collaborative use of technology (in pairs or small groups) is usually more effective than individual use, although some students, especially younger children, may need support in effective collaboration.

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