

Technology and Education for Global Relevance

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ABSTRACT

Technology plays an important role in every sphere of life. Technology has revolutionized the field of education and businesses. The importance of technology in schools and global business cannot be ignored. The onset of computers in global business and education has become easier for teachers and the global market to impact knowledge and for students and business owners acquire it. The use of technology has made the business, teaching and learning all more enjoyable. This article indicates that by integrating technology into education, educators aim to engender pedagogical change and address fundamental issues that affect learners with special needs. Technology can therefore be seen as both a tool and a catalyst for change. Today, technologies used to improve and facilitate learning can be found everywhere.

Keywords: Technology, Education, global relevance, personalized learning, classroom.

I. INTRODUCTION

The COVID-19 pandemic is quickly demonstrating why online education should be a vital part of teaching and learning. By integrating technology into existing curricula, as opposed to using it solely as a crisis-management tool, teachers can harness online learning as a powerful educational tool. The effective use of digital learning tools in classrooms can increase student engagement, help teachers improve their lesson plans, and facilitate personalized learning. It also helps students build essential 21st-century skills. Virtual classrooms, video, augmented reality (AR), robots, and other technology tools can not only make class livelier, they can also create more inclusive learning environments that foster collaboration and inquisitiveness and enable teachers to collect data on student performance. The promise of educational technology lies in what educators do with it and how it is used to best

support their students' needs (University of the People, 2022).

According to Project Tomorrow (2020), 59 percent of middle school students say digital educational tools have helped them with their grades and test scores. These tools have become so popular that the educational technology market is projected to expand to \$342 billion by 2025, according to the World Economic Forum. However, educational technology has its challenges, particularly when it comes to implementation and use. For example, despite growing interest in the use of AR, artificial intelligence, and other emerging technology, less than 10 percent of schools report having these tools in their classrooms, according to Project Tomorrow (2020). Additional concerns include excessive screen time, the effectiveness of teachers using the technology, and worries about technology equity.

Prominently rising from the COVID-19 crisis is the issue of content. Educators need to be able to develop and weigh in on online educational content, especially to encourage students to consider a topic from different perspectives. The urgent actions taken during this crisis did not provide sufficient time for this. Access is an added concern for example, not every school district has resources to provide students with a laptop, and internet connectivity can be unreliable in homes (Allison Academy, 2021).

Additionally, while some students thrive in online education settings, others lag for various factors, including support resources. For example, a student who already struggled in face-to-face environments may struggle even more in the current situation. These students may have relied on resources that they no longer have in their homes. Still, most students typically demonstrate confidence in using online education when they have the resources, as studies have suggested. However, online education may pose challenges for

teachers, especially in places where it has not been the norm. Despite the challenges and concerns, it is important to note the benefits of technology in education, including increased collaboration and communication, improved quality of education, and engaging lessons that help spark imagination and a search for knowledge in students (Vikashkumar, 2005).

Aim and objectives

The study is to examine technology and education for global relevance. Specifically, the study intends to:

1. Examine the benefits of technology in education
2. Describe the roles of technology in education
3. Assess the importance of information communication technology to global business
4. Explore the relationship between information technology competitive advantages and global business
5. Investigate the impact of technology on education
6. Analyze the challenges of educational technology
7. Explain how to integrate technology in the classroom

II. DISCUSSION

The Benefits of Technology in Education

Teachers want to improve student performance, and technology can help them accomplish this aim. To mitigate the challenges, administrators should help teachers gain the competencies needed to enhance learning for students through technology. Additionally, technology in the classroom should make teachers' jobs easier without adding extra time to their day (Adam, 2022).

Technology provides students with easy-to-access information, accelerated learning, and fun opportunities to practice what they learn. It enables students to explore new subjects and deepen their understanding of difficult concepts, particularly in STEM. Through the use of technology inside and outside the classroom, students can gain 21st-century technical skills necessary for future occupations (Grand Canyon University, 2022).

According to Edeh (2021), below are examples of how important technology being in education and the benefits it offers to students and teachers.

1. **Increased Collaboration and Communication:** Educational technology can foster collaboration. Not only can teachers engage with students during lessons, but students can also communicate with each

other. Through online lessons and learning games, students get to work together to solve problems. In collaborative activities, students can share their thoughts and ideas and support each other. At the same time, technology enables one-on-one interaction with teachers. Students can ask classroom-related questions and seek additional help on difficult-to-understand subject matter. At home, students can upload their homework, and teachers can access and view completed assignments using their laptops.

2. **Personalized Learning Opportunities:**

Technology allows 24/7 access to educational resources. Classes can take place entirely online via the use of a laptop or mobile device. Hybrid versions of learning combine the use of technology from anywhere with regular in-person classroom sessions. In both scenarios, the use of technology to tailor learning plans for each student is possible. Teachers can create lessons based on student interests and strengths. An added benefit is that students can learn at their own pace. When they need to review class material to get a better understanding of essential concepts, students can review videos in the lesson plan. The data generated through these online activities enable teachers to see which students struggled with certain subjects and offer additional assistance and support.

3. **Curiosity Driven by Engaging Content:**

Through engaging and educational content, teachers can spark inquisitiveness in children and boost their curiosity, which research says has ties to academic success. Curiosity helps students get a better understanding of math and reading concepts. Creating engaging content can involve the use of AR, videos, or podcasts. For example, when submitting assignments, students can include videos or interact with students from across the globe.

4. **Improved Teacher Productivity and Efficiency:**

Teachers can leverage technology to achieve new levels of productivity, implement useful digital tools to expand learning opportunities for students, and increase student support and engagement. It also enables teachers to improve their instruction methods and personalize learning. Schools can benefit from technology by reducing the costs of physical instructional materials, enhancing educational program efficiency, and making the best use of teacher time.

5. **Become a Leader in Enriching Classrooms through Technology:** Educators unfamiliar with some of the technology used in education may not have been exposed to the tools as they prepared for their careers or as part of their professional development. Teachers looking to make the transition and acquire the skills to incorporate technology in education can take advantage of learning opportunities to advance their competencies.

Benefits of Technology in the Classroom

Here are some of the ways educational technology improves the classroom experience:

1. **Creates a More Engaged Environment: It is thought that** technology is just a distraction, but it can help encourage active participation in your classroom. Using devices like a computer, tablet, or other type of technology in your classroom can help turn traditionally dull subjects into interactive and fun activities.
2. **Incorporates Different Learning Styles:** Each child in your classroom is different, and it can be challenging to adjust your learning plan to fit every student. Fortunately, technology in education can help you modify your lessons.
3. **Improves Collaboration:** Teachers have observed an increased frequency of students helping each other when they are using technology in the classroom. Many technology-based tasks involve other aspects, and this leads to situations where students need to seek help from their peers or the teacher. Additionally, when students are assigned to small groups, the students who are more technologically advanced can assist their inexperienced peers.
4. **Prepares Children for the Future:** By teaching students' skills like PowerPoint, you can help set your students up for success. Introducing instructional technology in the classroom at a young age can help prepare students for future digital demands.
5. **Connects You with Your Students:** Technology can help teachers form a better relationship with their students and their colleagues. Integrating technology into your lesson plans as well as using it to expand your own knowledge of subject matter can make a significant difference in the classroom (Victor, 2019).

Impact of Technology on Education

1. All of us, together, are surging through the most profound revolution in human history. Its

impact is personal, national, global and in many ways, unlimited. For education is changing more than it has since the invention of the printing press over 500 years ago, as now the world is your classroom and learning is lifelong. Already two billion students spend four-fifths of their working hours outside school, in an iPod, YouTube, Google, Wikipedia, etc. (Ghosh, 2013).

2. Technology has a significant impact on our lives. In fact, it has redefined the way we live. There is no doubt of technology playing an important role in all sphere of life. It is due to technology that all our daily difficult tasks can now be automated easily and efficiently. Thanks to the application of technology, living has changed and it has changed for better.
3. The advent of technology in educational field has made the process of learning and knowledge sharing more interactive. The greatest impact of technology on education is the change in our outlook towards the world. The remarkable shift in thinking from local to global can be attributed to technology.

Roles of Technology in Education

1. Promotes Effective Educational system: Undoubtedly, since technology is introduced in the classroom, it encourages the overall growth of students. Technology is a robust process to promote a healthy educational system worldwide. The Most Important roles of technology in education makes learning more accessible, exciting and enjoyable. The development of technological advancements in education leads to enhance knowledge and skills of students.
2. Technology Helps Students Learn Much and Better: through technology-based E-learning, students can learn more and better from different resources without depending on an institution or an instructor.
3. Improvise better Communication and Collaboration: We all know that the existence of technology has improved communication and collaboration to a better level. Likewise, Educational technology also boosted communication and collaboration between teachers and students and students/ parents, teachers/parents, and peers. Teachers can interact with students to clear their doubts and make e-learning more effective. Technology enables one-on-one interaction in the classroom online.
4. Provide Teachers More Resources: Educational technology provides teachers plenty of e-learning tools like Gamification,

AR/VR, smartboards etc. Through Advanced modern technology of education, teachers can use various digital tools to magnify learning opportunities for students. E-learning solution technologies enable teachers to improve their teaching skills. From technology, teachers can instruct well through video lessons, microlearning, attractive infographics etc. Moreover, teachers can engage the students by delivering online tests and different courses.

5. **Learning At Own Pace:** The important roles of technology in education is to students as they can learn at any time and from anywhere. With the technology-based E-learning process, one can study in their comfort zone. Students can play, pause and re-watch complex topics using online educational applications until the concept is clear.
6. **Personalized Learning Opportunities:** The importance Of Technology in Education is not just limited to efficient learning, but students can also have their personalized learning opportunities. Availability of more resources/material 24*7 to students allows them to personalize learning better.
7. **Efficient Problem-Solving Stuff:** Well, studying without having any doubts can be possible only through modern intelligent classes. Video modules of every concept help each of you to cut out the doubts.
8. **Better Understanding through Graphics:** Technology has evaluated the learning process through video graphics, which helps the human mind understand the concept faster and remember it for a long time. This can be only possible because of the visual information system. Using VR educational technology like gamification, mobile learning, microlearning, visual graphics etc. students can experience fun and learning at the same time and keep engaged with their studies.
9. **Save Time and Money:** With the availability of more study material via E-learning technology, the student can spend less money on other materials. Even nowadays, many schools are more focusing on buying online study material, which is cheaper and convenient for storage. Teachers can save time and money by teaching students via advanced educational, technological systems like augmented reality and virtual reality programs free of cost online and helps one to learn and understand faster (EdMonger, 2021).

Importance of information technology to global business

Global business is an organization or enterprises that are related in the transaction that carried out across national borders to fulfill the customers demand and increase the revenues and performance of the company. There are a few important steps for the entrepreneurs before entering the global business. The strategic planning is important to the business to ensure that they will sustain in long term and achieve the goals that have been fixed (UKEssays, 2018).

There are a few methods that can be use by the global business to communicate with the customers such as emails, fax and virtual conferences. Tracking method used for shipping and purchasing is the new innovations that can allow the businesses to confirm the quantity of goods and monitor the quantity of purchased. Spreadsheets and databases are essential method for global business because it can make the businesses easier to keep and manage their important data. The ability of businesses to communicate with the manager in different countries will allow the business to have a clear communication between each other. Video monitoring and inexpensive call-in different countries also some of the ways that global businesses can use in their daily operations (Ashley, 2019).

Supply chain for global businesses is more complex rather than the local businesses because it involved vendors, factories, customers and consultant in different part. Keep tracking the process to develop the product until the purchased process will involve many steps in several countries. Strategic supply chain management is important to ensure that the process of deliver the output to the other countries will run smoothly without any mistake that will affect the company performance (LaMarco, 2018).

Information technology can help the global business to market their product around the world. With the existence of World Wide Web, it will enable the companies to advertise their output and sell the product in any part o the world. The electronic marketing will allow the businesses to introduce new or existing product that can make the customers aware and know about all of the product details. In this method, the sellers can provide the photo, video films, product specification and price which can help the companies to attract the regular or potential customers. Information technology is increasing rapidly nowadays. In such, companies should always update their technology in business to

ensure that they will manage the business efficiently. Based on the point given above, it shows that the information technology is important for global business to ensure that they will success in the international market (Sebastian, 2021).

Information technology can help the global businesses to increase revenues. The existence of attractive website and electronic commerce can make the company to have the competitive advantage than the competitors that offered the same product. The design of the website should be easier for the customers to search the product details and to contact the companies if they have any inquiries. The website of the companies also should be easily to found in searches to ensure that the customers will aware about the existence of the companies. In electronic commerce, companies should have shopping cart and accept different online payment methods. If the businesses sell the product online, it can help the company to increase its competitive advantage.

Information technology can help to increase productivity and reduce operating cost. The computer networking will allow the employees in different countries to communicate with each other. They will be able to share files, applications and other data that can help them to finish their job easily. With low operating cost, company can get offer the product with lower price than the other competitors that offer the same product in the market and at the same time, they also can get the competitive advantage.

Relationship between information technology, competitive advantage and global business

Information technology is including any hardware, software and other communication method that can provide many benefits to its users. Information technology can make the operation of the global businesses will be easier and the productivity of the product will be high. Current information technology is needed in the companies to ensure that they will not far behind from the competitors because the competition in the international market will be very high.

Information technologies that have been used by the global businesses will make them able to create the competitive advantage. Competitive advantage is when the customers put the greater value to the product rather than the competitors' products. Competitive advantage can help the customers to trust and loyal with the product. It shows that the competitive advantage can make the companies to increase the revenues, performance and achieve the objective that have been fixed.

Based on the point given, it shows that information technology is essential to global business because it will create the competitive advantage and make the companies will be able to compete with the international market. However, competitive advantage in the business is not for long term. It is because, competitors will always find many ways to offer new product with greater value to attract the customers. So, it shows that the global business should always innovate their product to ensure that they always can have the competitive advantage and will be sustain in long term in the global market.

Impacts of technology on Education are the following:

Easy access to information; easy retention of information, more storage of information, better presentation of information, teaching became more interactive, easy sharing of knowledge and more interest in learning.

The field of education (teaching and learning) has revolutionized since the advent of technology. Schools have realized the importance of technology and have started implementing it in the classrooms. With the arrival of computers in schools, it has become easier for teachers to impart knowledge and for the students to acquire it. The onset of technology has made the journey of teaching and learning more effective.

1. Technology is a teaching tool: Computers provide us with an interactive audio-visual medium. Animation software and Power Point presentations are used to present information in an interactive way. Both teachers and students find it helpful and interesting to use audio-visual tools. Large number of students can be addressed simultaneously with the help of projectors, screens, microphones and speakers. These teaching aids have led to increased attendance in classes.

2. Technology has made student life easy: Technology has made the life of students easier. Nowadays, students use different software and tools to make presentations and projects, instead of using pen and paper. An iPad is very light as compared to a pile of notebooks. Surfing an E book is easier as compared to a heavy book. These tools help to generate more interest in studies. There are online libraries which require no physical space. The teachers, students and researchers sitting in different parts of the world can access the same online library simultaneously.

3. Easy to store information: Due to technology, data storage has become much easier. It takes few seconds to type or copy-paste various information. A small pen drive can store huge amount of

information. So, managing records online is easier. Computers enable better and strong storage of data as compared to managing hard copies.

4. Digital classrooms: Both students and teachers get benefited through the use of digitized boards in classrooms. Thanks to the advanced technology that we can see the entire syllabus online and then decide which courses and subjects we should opt for. Interactive digitized boards can be used by students for drawing figures, making diagrams, doing mathematical calculations, etc.

5. Information is easily accessible: The internet search engines are a source of immense information. They are now used as an effective tool for searching information. All this is possible in just one or two clicks. Both teachers and students are benefited through this.

6. Teaching is sharing: The application of technology has made education more collaborative. There are online forums where subject experts can meet and discuss subject specific topics, review the syllabus and plan assessments to enhance the process of teaching. Teachers can impart customized education to cater different learning abilities and needs of the students. Everyone has a personal learning style, almost as unique as one's fingerprints. Any skills can now be taught online in sequence, from beginner level to master level. Good teachers and multimedia experts can tailor such instant learning programs to individual learning styles and in individual modules.

7. Technology has removed space and time limitations: There are different online education programs available which has given a new dimension to education. The students and teachers can be a part of one virtual classroom, even if they are physically far away from each other. Some universities offer online educational programs where students and teachers can interact with each other through internet. There are online libraries with books, journals, encyclopedias, etc. where students can access various resources, highlight, save and use the soft copies.

In today's fast changing world, most of the jobs involve the use of computers and advanced technologies. We all need to be computer savvy to keep in pace with the moving world. We live in a technologically advanced world where it has become necessary for us to be familiar with the latest technologies and inventions. So, computer technology has become an integral part of school and college curriculum.

Positive Effects of how Technology improved Education

Education has been opening doors to professional and personal growth for centuries, but not for everyone. Therefore, an increasing number of education organizations are tapping into the positive effects of technology on education, realizing that choosing the right tools and methods can be a game-changer for students that have been previously marginalized (Chazen, 2019). One of the first thoughts that come to mind when talking about how technology affects education is often about the almost unlimited access to knowledge. Instead of sticking to books they can physically carry, or the ones that happen to be available in nearby libraries, students have complete abundance at their fingertips with eBooks and audiobooks, giving them great options to buy and to rent, and a lot less back pain.

Of course, virtual books are just the beginning, as knowledge is available online in a variety of formats. MOOCs (Massive Open Online Courses) enable free access to courses. Podcasts, videos and blog posts from both education organizations and other sources are a click away and cover every topic imaginable. All these options, combined with a wide range of discipline-specific tools, make it easier for education organizations to open the door to experiential learning, where students no longer need to wait for graduation in order to go beyond theory (Emmanuel, 2003).

In addition, students gain deeper access to another important learning resource: their own peers. A key positive impact of technology on education is that it brings students together through discussion and collaboration tools, who might never have considered, or had the opportunity, to communicate or help each other offline. According to Lawlor (2002), the following are the positive impact of technology on education:

- 1. Improved Teaching Operations that Encourage Collaboration, Efficiency, and Diversity:** When it comes to team management, technology enables faculty members to ensure equality in opportunities. At the brink of the third decade of the 21st century, more and more diversity and inclusion software products aim to help management recruit and promote with less unconscious bias.
- 2. The Rise of Accessibility and Assistive Technology is Opening Doors to Student Populations Who Were Previously Left Behind:** One cannot really talk about how technology affects education without talking

about accessibility for sectors of the population that were previously left behind. This is, without a doubt, one of the most exciting positive effects of technology on education. For blind students, the technology converts slides and texts into electronic Braille, and audio recordings of classes provide another option. Similarly, video recordings of classes provide hard of hearing and deaf students with the ability to access lectures as well. In this case, closed captions are added to the video, of course. With artificial intelligence software, captions can be provided quickly and accurately.

- 3. Distance Education and E-Learning that Enable Creative Collaborations and Learning Experiences:** Besides making education accessible to students dealing with disabilities, distance education and e-learning technology open the door to students who would otherwise not be able to afford higher education. Distance education and e-learning also make it much easier for people who have graduated with a BA or MA to continue their education, whether for professional development or simply for personal joy. But the positive effects of technology on education do not end here. Technology enables education organizations to partner with each other, and to easily bring professors from other universities to teach their students, despite geographical distances that would otherwise require more availability from the professors and higher costs for the organization. To expand experiential learning, universities can connect students with real-life people who will be impacted by their future work, and can give them insights that a textbook can not.
- 4. Commit to Making an Even Bigger Impact on Education in the Next Decade:** Now that education organizations have seen how technology has changed education positively, it is understandable to feel hungry for more. The timing could not be more perfect for universities to look for ways to expand their impact, as we enter a new decade. Bringing representatives from multiple departments together, universities can strategize goals for every department, and for the organization as a whole, and start turning it into a game plan (Lawlor, 2002).

How to Integrate Technology in the Classroom

According to Stephen (2007), many learning technologies and tools boost a teacher's ability to engage students, as they facilitate access to a

multitude of resources and interactive activities. Below are examples of technologies that can benefit teachers and students alike.

- 1. Computers and Tablets:** Educators can take advantage of computers, laptops, and tablets, allowing students to play educational games, watch videos, and interact with new media. These devices also give students access to the internet to conduct research, access databases, and visit educational websites.
- 2. Smartboards:** Educators can keep the learning environment interesting and maximize efficiency by using smartboards in the classroom. With an interactive whiteboard, teachers can bring up supplementary imagery readily, play videos, allow students to collaborate in real time on the display, and share notes on a class wiki or website. A smartboard can make lessons more engaging and can make it easier for students to return to the notes when class is over. Additionally, these devices can support a variety of subject-specific learning apps.
- 3. Virtual Reality:** Virtual reality (VR) is becoming increasingly common, as are its applications in the classroom. Teachers can use this technology to come up with creative ways to instruct students in everything.
- 4. Social Media:** Educators can leverage social media to create groups, hashtags, or other opportunities for their students to interact with material and each other. Teachers can invite students to upload their own video or article links related to a specific theme in the play (Stephen, 2007)

Integrating technology in the classroom enlivens learning and offers other advantages as well.

- 1. Access:** Technology helps ensure that both teachers and students can easily access class materials anytime with lessons synced to the cloud, supporting videos and graphics uploaded to Google Classroom, and upcoming assignments displayed on a shared calendar (School of Education, 2020).
- 2. Interactive Learning Experiences:** Student engagement increased by 55% after the introduction of smart technology into classrooms with technology on hand, teachers can illustrate ideas using interactive media. Whether building collaborative wiki pages with class notes or playing educational games on tablets, students can engage interactively through technology.
- 3. Excitement:** Students undoubtedly enjoy using technologies such as VR and tablets, which can hold their attention with videos, graphics,

and other media. Fun technology inspires students to continue learning and creates intrinsic motivation. In turn, it builds classroom morale and makes teachers' jobs easier.

III. SUGGESTIONS

- Develop media literacy on a global scale: this will help students identify, access, analyze, and evaluate media from around the world, including international news sources that are available in both local languages and English translation.
- Tap into global knowledge networks: This will help students realize the power of collective intelligence through global networks where information is collected and analyzed.

IV. CONCLUSION

Educational technology in education is important because it helps today's teachers to integrate new technologies and tools into their classroom. Teachers are able to upgrade and improve the learner-centeredness of their classroom. It enables teachers to engage their students in unique, innovative, and equitable ways.

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