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Technology in modern day education

Technological revolutions have taken place in every aspect of life, and the field of education is not an exception. Advanced inventions and techniques have been incorporated into the education system to help improve the quality and speed of learning. The quality of learning materials has also improved over the years thanks to the inclusion of technology. Long gone are the days when students would be found thumbing their way through encyclopedias. It has become possible to access the educational materials through the internet easily. In as much as there are positive effects of technology of education, there have been people who argue that technology should not be used at school since it is distracting students from learning. The improvement of quality of education is an important aspect that needs to be looked into by society. Technology can be used to improve students' test scores, make access to education easy for disabled students. The quality of culture of a nation determines the nations' development a lot. Knowledge helps ensure that future generations can initiate and sustain growth in their countries. With the inclusion of technology in education, people will be able to access more information, hence, improving their learning process. This paper will discuss a need for incorporation of technology in schools, the future of technology in education as well as a positive impact of technology on the learning process. The paper will also discuss how the future of education can be visualized as well as whether or not students' memory should be tested.

How technology has impacted education

Technology has enabled diversity in education. Traditionally, the student would be required to be physically present in the classroom when the teacher was giving the lessons (Harvey 10). However, nowadays, learners across the globe can access educational content through the internet. Regardless of one's race or their mother tongue, everyone has an access to any kind of data. Software that can translate speech from one language to another has made it possible for individuals who are learning distantly to understand what they are being taught.

Technology has made art education more interesting for students. Traditionally, students were restricted to visiting museums and art galleries to view art pieces. However, with the inclusion of technology in education, art pieces are now modernized, and students from most parts of the world can access information via the internet (Benjamin 220). This has made it possible for art to be appreciated all over the globe. AI is also being used in museums to help make the museum experience more interesting for visitors. With the help of AI, technology can help guide visitors in galleries to see the pieces of art. At the museum, the visitors can look at the pictures using 3D technology, thereby giving the thrill of one actually being a part of the picture. Security is also improved so that the images do not have to be taken to showrooms (Benjamin 220). Projections can be made while the pictures are kept in storage, hence, ensuring the safety of the pieces being displayed. The art restricted to is not limited only to images. Technology has helped improve the scope of art to include videos which resonate well with art lovers.

Technology has extended has made the classrooms the students' homes (US Department of Education 12). The school no longer ends when the bell rings. The student can access learning material from their homes regardless of the time of day. This ensures that the learning process is continued. In addition to eliminating the barriers created by classroom walls, technology has extended education to areas that were initially considered too remote to be accessed by teachers.

For instance, there were parts of sub-Saharan Africa where education was unheard of. However, with rural electrification programs, the extensive spread use of the internet, as well as the invention of smartphones, students from these areas, can take online classes without having to travel long distances to get to school. Many brilliant minds were not able to go to university because the distance required them to get to campus which was too far. However, with e-learning programs being offered by many institutions, these students have become able to further their studies while at the same time working on other personal projects.

Technology has made it possible for teachers to access their students' learning progress (US Department of Education 3). When an assignment is given online, the teacher can monitor the amount of time each student spends on a question and also note whether or not the answer they provide is correct. With this information, the teacher is better equipped to tailor their teaching to fit specific student's needs, thus, ensuring that every student can benefit from the learning process.

The traditional classroom forces the student to adhere to a strict schedule. However, technology has made it possible for the students to enjoy flexible learning where they can learn at their own pace. The learner is now ready to enroll for online classes and enjoy the freedom of taking their time to understand learning material.

Technology has also considerably reduced the cost of education. Initially, one had to travel longer distances to purchase textbooks and other learning materials. However, with introduction of technology, one only has to be able to access the internet where all the learning materials can be found. With digital platforms, students can access eBooks from their schools' online libraries (US Department of Education 7). With this, no student is left out to get an opportunity in education simply because one was unable to raise enough money to purchase textbooks, or travel to school. Schools have also benefited from technology when it comes to cost reduction. For instance, instead

of having to print out numerous newsletters, they can send emails to parents and receive feedback via the same channel. Resources that would have been used to purchase printers and photocopy machines can be, therefore directed, to other development programs.

How technology has made learning possible for students with disabilities

Technology has also made to get rid of restrictive barriers that prevented students with disabilities from accessing the same level of education as their peers. This category of students is no longer restricted to a classroom they are unable to attend, and being forced to learn at a pace that is way above their level. Students with conditions that make communication difficult such as Cerebral palsy, autism and Down syndrome can take part in the learning process through the use of devices such as tablets (Luckin et al., 17). The benefits of technology for students with special needs include but are not limited to: a choice what subject to learn, improved academic skills, ease in communication, being able to communicate with their peers, reduced levels of anxiety over not being like their peers. Also, technology has made it possible for students to gain some sense of independence and responsibility. With assistive technology, students with special needs do not need someone to be constantly looked over, hence, they have a sense of independence. When a sense of independence and responsibility is instilled in a student from a young age, their self-esteem is boosted.

Students with disabilities may find the traditional classroom to be very daunting. They may have trouble completing simple tasks like writing their names. The inability to be like their peers may make it difficult for them to grasp the ideas being taught in class. However, assistive technology ensures that learning is made easier for students with disabilities. The assistive technology refers to devices that make it possible for students with disabilities to improve their functional capabilities (Shanahan, 6). There are different types of assistive technology tailored to

cater for different needs. Students with difficulties in hearing can use hearing aids and special FM transmission units whereby the teacher the transmitter and the student wears the receiver. This way, the student's hearing can be improved. Students who have problems with mobility can move around the school with the help of self-propelled walkers and wheel chairs. Computers can now be built in the wheelchairs, thereby making it easy for the disabled children to access them.

Technology has also made it possible for the information to be tailored in different ways, so it can be understood by students with different needs. Students with special needs may find it difficult to comprehend the information on a page full of words. With the aid of technology, the learning material can be put into videos that can be shown to the students to aid their understanding of the material (Shanahan 6).

Participation in the classroom makes the students more confident. When assistive technology is used to help students with a disability learn, they can be able to compete with their peers (US Department of Education, 17). Instead of these students being segregated in different classrooms, they can learn together with their peers, so that they feel to be just like the others students. In class, they are encouraged to participate in the learning process, thereby, enabling them to showcase their talents and skills.

Artificial intelligence in education

Artificial intelligence (AI) refers to a machine's ability to think and to learn. AI is being used increasingly which changes the face of modern day education. Thanks to AI, academics are increasingly being personalized making the learning process more interesting (Lenoir, 3). An example of how AI has been used to transform the education sector can be seen in the marking and grading of papers. Traditionally, teachers spent a lot of time going through term papers in

order to grade them. However, with AI, the student's work can be automatically graded by the computer, especially in instances where more than one test is being taken. With this invention, teachers can spend more time imparting knowledge to their students than spending a lot of time grading their works.

Providing an instant feedback is a key motivation for students (Lenoir 5). With the help of AI, students can instantly receive feedback for any tests they take online. AI has also improved the quality of interaction between tutors and their students. Whereas initially, students were restricted to specific time during which they could interact with tutors, AI has made it possible for students to interact with the teacher online.

AI has also transformed the learning experience in that it has encouraged institutions of higher education to offer more courses that can be taught by AI (Siau 23). There is a growing concern, however, that automation of technology can take over people's jobs. Over the years, machine learning has made possible tasks that require to be carried out by robots. Given this threat in job security, universities are increasing the quality of their education and include the subjects that cannot be taken over by machines, hence, increasing job security. The courses being offered are those that make it possible for the students to augment and complement AI. It is critical for students to acknowledge that they cannot directly compete with AI since machines do not get exhausted. As such, it is in their best interests to choose career paths that will make it possible for them to work alongside AI (Siau 23).

In order to stay relevant in the world that is increasingly using AI in almost every part of day to day life, it is necessary that students are taught soft skills that are yet to be mastered by machines such as empathy, problem-solving, and leadership (Al Muhtadi 6). These skills will make it possible for people to work alongside machines in the future. While AI will be carrying

out tasks that require hard skills, such as mathematics and science, soft skills such as leadership and problem solving will be required to keep the work process running smoothly (Conati 30). As such, the human labor force will be able to complement each other in the future labor force.

The education system needs to be tailored to include technological literacy (Anandarajan and Claire 7). AI is a revolution whose time has come, and trying to rebel or deny its existence is ineffective. It is, therefore, essential that schools teach their students ways in which they can embrace the technological revolution. When a student can understand how AI works, he or she is more able to work alongside AI in their chosen career path, thereby assuring them of job security. During the age of AI, job preferences will be transformative, and several jobs will become obsolete (Lin 61). As such, it is important that human beings can strengthen the qualities that make them different from robots and maximize previously mentioned qualities.

Surveillance in schools

With the advancement of technology to include inventions that make surveillance easy, one cannot help but wonder what schools will be like in the future. Presently, surveillance materials are being used by students right from the moment they leave their homes, up until the schools. For instance, student A wakes up and gets ready for school. Before boarding the school bus, he has to scan a card given to him by the school to confirm his identity. When the student is at school, they have to go through a metal detector and other random searches. In the school's hallways, there are CCTV cameras watching the student's every move. When the student scans their card once again to get into a class, they are a minute late, and an automated detention slip is printed by a machine in the class. In the classroom they are required to use school-provided laptops to conduct their research. The school can monitor the student's facial expressions as well as filter the content the

students can access using the laptops. Student A has to swipe their card to board the school bus to be taken to home, and the cycle continues the next day.

Such is the surveillance system in schools currently with the situation having the potential of getting better or worse depending on an individual's point of view. There are those who have argued that surveillance in schools infringes the student's right of privacy while others encourage the use of surveillance systems in schools saying it helps prevent vandalism of school property, deters students from cheating and promotes a sense of responsibility while at the same time helping ensure the safety of students (Collins and Richard 10). When students are tracked, the school is able to monitor their movements and account for their presence throughout the school day up until the moment they are dropped home.

Surveillance has also helped improve security in schools. With the rising number of school violence and shootings, it is only practical that measures are put in place to prevent the occurrence of any event that might threaten the student's wellbeing. Metal detectors can detect the presence of guns being brought to the school. The relevant authorities can then be alerted to take appropriate action to alleviate the situation before any harm is caused.

Schools also use algorithms that monitor student's searches on the internet to prevent any undesirable behavior and to take appropriate action to prevent bullying and suicides, or other violent behavior that might be instigated by the student (Collins and Richard, 10).

Those who do not support the use of technology to monitor students note the impending breach of privacy if the technology is implemented everywhere. For instance, Flipgrid, which is a video discussion application owned by Microsoft allows students to discuss their studies online. However, the fact that Microsoft stores these videos limit the student's freedom of speech since

discussions that should be limited to the classroom are stored, thereby, resulting in permanent monitoring of the students.

Some have argued that massive use of technology in schools will give rise to a dystopia that seemingly prepares students to be like goldfish in a bowl: they think they are free, but in reality, they are imprisoned and constantly being watched (Collins and Richard, 7). An example of the places where technology in schools is being taken to the extremes is Paris, where a catholic school requires students to wear a Bluetooth device at all times, and they are fined \$12 if, for whatever reason, the student does not wear the device. In China, some schools have adapted the use of facial recognition machines to monitor the student's facial expressions every 30 seconds. Using technology to conduct surveillance on students "caring about them" leads one to wonder about the genuineness of this concern since the student is only being helped when they are getting into trouble.

Testing students on memory as opposed to pure knowledge

Schools often test how much students can recall the material taught in class (Jacob and Jesse, 90). This, therefore, means that students who do not have good memory are bound to fail the tests. When using technology to grade tests, the answers are fed into the system, and the system will only accept scores that are similar to what it has been given. Taking this into consideration, only students who can remember the material word for word, are able to pass. On the other hand, students who understand the concept but presented their answers using different words may fail. This can be frustrating to the student. The main aim of education is to help students broaden their understanding of the world (Jacob and Jesse, 97). They should, therefore, not be expected to remember things how they were taught. Pure knowledge should be tested in class so that the students are encouraged to be creative with their responses to tests.

The future of technology in education

Sometimes, in the process of learning, the students simply have a hard time trying to grasp the content being taught (Karsenti 113). Technology has found a way to bypass this difficulty by coming up with a way through which information can be transmitted directly from one brain to another. Language barriers as well as other aspects of communication may make it difficult for a teacher to effectively teach their students. Rao and Stocco came up with an experiment to test whether or not it was possible for the information to be directly relayed from one brain to another (37). Their designs being still at the development stages, their research shows positive prospects of being able to successfully bypass traditional communication methods. If these inventions turn out to be successful, then major strides would be made in technology which would eliminate major mistakes. For instance, if a medicine student was able to master surgical skills, then the level of patient care and the quality of life are bound to increase.

In the traditional classroom, the teacher is the primary source of information while the student is made to take up the role of the passive recipient. It is unfortunate that despite this being the internet age, the situation has not changed much. However, over the years, the role of the teacher has continuously shifted to "the guide" who helps the students take a central stage in their education. This has been made possible for students can access information easily (Karsenti 113). The teacher's role is now to guide the students on how to critically analyze the information they access via the internet and to ensure they have the most reliable content. Therefore, technology will make it possible for learners who are unable to learn using the traditional methods to be allowed to learn at their own pace in the near future.

Software providers are continuously presenting more and more ways through which AI can help in the grading of term papers. Software that enables teachers to check the students' work

for plagiarism has helped to encourage originality in education. In schools, the administration has also benefited from AI in that paper work has been eliminated in the process of admission (Karsenti, 115). Students can apply to schools online, take tests, and be able to learn online without even having to visit the school.

Conclusion

In conclusion, technology is a critical part of modern education system. The incorporation of technology in the learning process has ensured that all student's needs are catered for. For instance, students who are visual learners can have projections of what is being taught. This way, they can understand concepts better compared to when they were to just sit in class and listen to their teachers. Technology can also be used to supplement school's curriculums, thereby ensuring that the learner's access to knowledge is not limited to the classroom. When students are asked to make use of technology when conducting their research, they are prepared for the employment world where everything is being done through the use of technology. Learning has also been made enjoyable for disabled students. Thanks to technology, they can overcome mobility, communication, and comprehension challenges. They are, therefore, able to interact with their peers in class. Ease in interaction is an empowering factor for students with disabilities. Developments and improvements being made in technology that will help in learning have positive prospects. If this technology is successfully developed, many aspects of life will be changed. In the field of medicine, "accidents" will be a thing of the past and the quality of care given to patients will be improved. For instance, when a surgical skill is transferred directly to the medical student's brain, they will be able to carry out surgery with precision, thus, saving more lives. In as much as technology has made life easier for school administration and staff, there are people who oppose the use of technology in schools, especially, when it comes to conducting surveillance on students.

When schools conduct surveillance on their students using technology, there is no aspect of the student's life that is spared from scrutiny. As such, the student grow up to be like fish in a bowl: always being watched. They may act in a given manner just to please the people who are watching them. This is a downside since technology ends up inhibiting one being truly themselves. Jobs are being taken over by AI. As such, it is essential that schools tailor their curriculums to include courses that offer the best job security for their students. For instance, entry-level jobs that require repetitive actions can easily be learned by machines. As such, jobs that require empathy and problem-solving skills are more appealing when it comes to securing job security. It is also important that instead of trying to outdo machines in the work place, people are taught how they can work alongside AI to improve output and profitability.

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