

Literature review on technology in education

[Technology](#), [Development](#)



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Technology in education

Interactive learning

Teaching and learning process is progressively getting enhanced by technological invention. In other words, technological inventions and innovations are creating new possibilities of transforming the process of teaching and learning especially in the modern society. The need to integrate the use modern technology in teaching and learning has led to programmatic changes aimed at developing more advanced approaches and learning teaching. The process of integrating technology in education according to Sessoms (2008, p. 2) requires that the changes be a reflection of the transformation in the teaching methodology and pedagogy. As such, teaching and learning process has been enriched by incorporating social networking and modern technology to create an interactive learning environment.

In view of Smith et al. (2005, p. 56) interactive learning evolved out of the hyper-growth in the use of digital technology and virtual communication since 2000. In fact, interactive learning has become an integral part of education today (Smith, 2005, p. 57). Today, interactive technology is part

and parcel of the learning process. According to these scholars, the intersection between technical and pedagogic interactivity has slowly evolved into a reality. Bull (2007) reiterates that a combination of interactive learning and interactive teaching supported by use of technology leads to an interactive education (Bull, 2007, p. 41).

Various tools of technology have made interactive learning achievable and realistic. For instance, the use of Web 2.0 tools and interactive boards have been very resourceful in creating an interactive teaching and learning environment. Consequently, there is a drive to develop teachers who have an interactive pedagogy that enhances the implementation of interactive teaching aided by the use of digital technology. Kennewell (2004, p. 47) avows that the traditional pedagogy are not based on an interactive model of teaching and learning. He further affirms that traditional teachers find it challenging to use modern technology to develop an interactive education process. Instead, they use technological tools to support traditional pedagogy (Kennewell, 2004, p. 48). Giouvankis and his colleagues suggest that new tools need to be empower educators to change the way teaching and learning process should proceed. Teaching and learning process should be perceived as an interactive process (Samaras, 2006). This is the reason most educators advocate student-centered approach of teaching and learning.

The fast pace of technology development has provided both opportunities and challenges to educators, governments, schools, teachers and all stakeholders in the education process. Scholars such as Samaras and his colleagues argue that a modern technology in education has enhanced

access to resourceful, multimedia sources and online services that have made it possible to access education everywhere without necessarily having to be in contact with the teacher. With the changes in technology, various aspects of education are changing. For example, there are rapid changes in the curricula; new values are being introduced, and teaching methodology and pedagogy is being reviewed to be in line with the needs of the modern technology.

In the teaching arena today, tools of technology such as televisions, overhead projectors, power point slides, computer technology are being used to transform the classroom environment to stimulate thinking and make the process of teaching and learning interesting and motivating. Constructivism theorists such as Vygotsky argue that the modern technology should be incorporated in the teaching and learning process to enrich the content and make the teaching and learning process more interactive (Vygotsky, 1978, p. 123). They propose tools such as interactive boards and Web 2.0 apps such as Kids and Cookies.

Nevertheless, the use of technology has posed challenges in the education process. According to a report by the Federal Communications Commission in 2010, schools and institutions of learning are in a constant battle to keep to the pace of the fast changing technology. Traditional technology in education was a bit simpler to run and manage. In fact, it was all about connectivity. Emergence of digital innovations from time to time puts pressure on schools to keep upgrading their systems to be in line with the new programs. It is no longer desire simply to get connected to the internet. There is a drive to keep in line with the digital technology.

Modern technology has led to the development of E-learning. Most schools are, therefore, trying to provide online learning services. In some cases, charter schools in the United States are presenting a hybrid option of digital materials supplemented with face-to-face instruction. Most researchers agree that the contributions of technology in education process are credible. Diallo Sessoms (2008, p. 11) asserts that the education transformation requires that teachers be creative enough to develop fundamentally different learning environments that enhance creativity.

Advantage and Disadvantage of Using Technology in Education

The use of modern technology has brought great changes in the education sector. Some of these changes positively affect the way education is conducted while others have negative impacts. The advantages of using technology in education are as discussed below.

- Through technology, a teacher or tutor is able to reach to more students located at different places without necessarily meeting them face-to-face (Johnson, p 4 p. 43). Teachers and tutors can use any of the technological advancements such as email communication and course-specific web pages to present coursework and assignments to their students.
- Technology assists students who are geographically isolated and the disabled students in their course of learning. Through online learning, the disabled and those who come from far can easily access the course materials without having to travel to school. It promotes leaning for those who are less privileged in terms of locality.
- Technology makes it easier for students to conduct their research work.

The internet, which is a technological application, offers instant access to records from numerous sources (Shields, 2000, p. 10). It makes it easier for students to study on their own as the much needed information can be found through the internet.

- It assists students on the work study program to be at par with the rest of the class. Most of these students have busy schedules, and some may fail to attend some sessions, therefore, technological applications like course specific web pages help them to catch up with their teachers.

Despite the fact that technology has created opportunities for learning and teaching for students and learning, it has also led to some downfall in education as discussed below.

- Students from low backgrounds cannot afford the technological gadgets and applications needed. This inconvenience makes it hard for these students to gain access to the educational materials.
- Technology makes it hard for teachers to monitor the performance of their students as technology encourages cheating. These students may hire others to do assignments on their behalf, and it makes it hard for the teachers to trace their areas of difficulties.
- Use of educational technology does not motivate students (Robyler, p. 2 p. 25). Acquiring educational information relies on the self-monitoring, self-discipline and self-motivation which could be challenging for some students.
- Technology has numerous applications for example the social websites and social media that can distract the attention of more students making it hard for students to submit their assignments in time.

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