

TECHNOLOGICAL DEVICES IN TEACHING AND LEARNING

By

***Jaini, C., & **Vel Murugan, P.**

**M.Ed. Scholar, Bishop Agniswamy College of Education, Muttom, Kanyakumari District.*

***Associate Professor, Bishop Agniswamy College of Education, Muttom, Kanyakumari District, Tamil Nadu, India.*

Abstract

Technology plays a vital role in our life. Technological devices such as computer, cellular phone, smartphone, digital camera, video camera, audio recording devices and other electronic devices that can have a significant role in education. Now-a-days, interactive white board, smartphone, tablet, iPad are very much helpful in teaching and learning process. These devices are a boon in the digital world for updating our knowledge instantly.

Keywords: *technological devices, teaching, learning*

Introduction

Rapid developments in the realm of Information and Communication Technologies in the not-so-distant past have resulted in significant changes in the way the process of teaching and learning is operated strategically. The integration of technology into the teaching and learning process has more of a direct effect on the achievement of the learners when the teachers are using their knowledge on both the subjects to be taught and the way the learners understand them. The new technological devices such as interactive whiteboard, smartphone, tablet and iPad have brought in

tremendous changes in the teaching and learning process.

Interactive White Board

An Interactive White Board is a large interactive display in the form of a whiteboard. It often supplements by connecting to a school network digital video distribution system and interact with online shared annotation and drawing. It can help transform learning and instruction and allows pupils to explore ideas, carry out assignments and follow-through on learning activities in new and interactive ways. It can be used to (i) allow presentation of student work in a more interactive and collaborative way, (ii) show video

clips that present and explain difficult concepts, (iii) demonstrate how an educational software programme works, (iv) cater more effectively for visually impaired students and other students with special needs, (v) display internet resources in a teacher-directed manner, (vi) allow students to work creativity through learning activities in whole-class mode or in small groups, (vii) provide new opportunities for individualised learning experiences, (viii) showcasing student projects, presentations, virtual field trips and recorded lessons and (ix) create handwritten drawings, notes and concept maps during class time.

Benefits of Interactive Whiteboard

The benefits of the interactive whiteboard are (i) enable more varied, creative, and engaging classrooms, (ii) increase enjoyment and motivation, (iii) enable teachers to integrate ICT into their lessons while teaching from the front of the class, (iv) many students will learn and participate at a time, (v) stimulating nature of the presentation and the flexibility that the technology offers, (vi) increased motivation and self-esteem, (vii) more collaboration with peers, and (viii)

favour the students with different styles of learning, skills and attention (NCTE, 2009).

Smartphones

Smartphones are high end mobile phones which combine the features of personal digital assistants. They carry a variety of features within a small, often light weight frame. It gives students a wealth of creative options to enhance the classroom experience, including access to the internet for research and referring, access to e-mail, ability to snap a picture of the day's homework assignment scribbled on a whiteboard or take a short video of a key lecture moment etc (Asoke Nath & Sneha Mukherjee, 2015). The following are the important uses of smartphones in the classroom.

(i) *Check facts*: Smartphone can be very useful when explaining and debating topics. Students and teachers can find facts within seconds. (ii) *Take photos and make videos*: Smartphones can be used as cameras to illustrate work and presentations, and videos can be used to record experiments and later include them in projects. Not only can we make videos, but we can also edit them, add text, filters, effects and more. (iii) *Carry out tests*: Students can take

quizzes and tests on their mobile phone that were created earlier by their teacher. (iv) *Read the news*: Many teachers often include news articles as part of their teaching methods. With an endless amount of news gathering mobile applications, they can bring news and current affairs into the classroom instantly. (v) *Dictionary*: There are a multitude of dictionary applications that allow users to check the meaning of a word instantly. (vi) *Translator*: This can help translate words just like the dictionary application. (vii) *Calendar*: This can also allow the students to synchronize calendars. The students would have no more forgetfulness or confusion about exam dates or submission deadlines. (viii) *Write down ideas*: Smartphones allow students to take down notes any time, any place. (ix) *Images*: Students can find it easier to understand materials when there is an image related to an explanation. It could be easily accommodated in the mind. (x) *Review*: Smartphones allow the students to access resources and material quickly before an exam. (xi) *Stopwatch/timer*: Stopwatch favours to practise time management during the time of class exercises and presentations often come with time limits. (xii) *Read eBooks*: Applications

like Kindle, FBReader, Nook Kobo etc. allow the students to read books and manuals from anywhere. (xiii) *Voice Recorder*: Smartphones provide students with the ability to record explanations. These recordings can be referred to later on and can save a great deal of time instead of writing. (xiv) *Document scanner*: The camera of a mobile phone can serve as a scanner. Some teachers even support the delivery of class work through photos. (xv) *Calculator*: There are numerous applications that enable the students to perform all the operations of a scientific calculator. Smartphones have imminent powers to store mathematical and scientific formulae close to hand. This helps reduce the amount of items. (xvi) *Class blog*: Class blogs are an increasingly common exercise these days and help develop writing skills. The students/teachers can write and post articles at any time. (xvii) *Communication*: It would make easy communication. For instance, if a student must go to the principal's office or HoD's Chamber, the personal assistant or authorities can communicate with him through a text message. (xviii) *Updates*: Reminds an app designed to send notifications to parents and students without knowing their phone number. (xix) *Locate*

points on the map: Applications such as Google Maps help us to locate ourselves and are great in History and Geography classes. (xx) *Assess Students:* Smartphones can be used to monitor and keep track of a student's course work and exam results. In this way, teachers have access at all times to a particular student and can see if that student is making progress or not. (xxi) *Share Notes:* Many: Instead photocopying large amounts of paper and handing them out, the smartphone allows to easily perform to distribute materials. (xxii) *Weather:* For teachers who like to move the lesson outdoors, weather apps can come in very useful to see the forecast. These apps can also serve specific lessons in explaining the climatic conditions in other regions or countries. (xxiii) *Play:* Transform learning into a game as much as possible. This can make learning more enjoyable and easier for the students (Andrea Leyden, 2015).

Benefits of Smartphones

The benefits of the smartphones are (i) smartphone has the ability to browse full websites with large amount of data and it will appear the same way as it is in the desktop browser. (ii) It has got application that can help to create and

edit Microsoft office documents. (iii) It can synchronize one's personal and most likely one's professional email account. Some smartphone can support multiple accounts depending on the make and model.

Tablets

A tablet is a wireless, portable personal computer with a touch screen interface. The tablet form factor is typically smaller than a notebook computer, but larger than a smartphone. It is convenient for the students to take them anywhere. The tablets are ready for education as they are the best way to show textbooks. They can offer enhanced e-books that feature images, video, audio, and these elements are impossible to include in print or in a standard e-book. The tablets allow the students highlight text; they can take the notes in the margin and access a dictionary directly within the book itself. The following are the ways to use a tablet in the classroom.

(i) *Virtual Field Trips:* It is unlikely the teacher can able to take students on field trips to every destination cover in class; however, with a tablet, the students can go on virtual field trips anywhere. (ii) *Research:* Tablet is a

portable research tool for the classroom. Students can select research topics and search related materials. (iii) *Reading and Listening to Books*: E-books are specifically designed for use on tablets, so it makes sense to allow students to use their tablets for reading in the classroom. Moreover, tablets have speakers, which allow for easy listening to audio books or text-to-speech e-books. (iv) *Radio and Podcasts*: Using apps such as Tune in Radio, students can listen to music, radio shows, and podcasts from all over the world on their tablets. (v) *Presentations and Projects*: Students can have a good deal of options for creating multimedia projects, comics, books, music, and more on a tablet. These projects can be shared and shown on your smartboard. (vi) *Photography*: Tablets have cameras, and with the right photography editing app, students can work on creative projects or simply document the class activities. (vii) *Note-taking*: Tablets can be used to take individual notes and store information. (viii) *Educational Apps and Play games*: There is an abundance of high-quality educational apps that can use to supplement learning. Moreover, there are many games that have educational value that may be played on tablets, such as

Oregon Trail, Thinkrooms etc. (ix) *Quizzes*: Using a variety of apps, one can use tablets to quiz students and receive immediate results. (x) *Watch Videos*: Tablets also make it easy to watch videos that are relevant to what students are learning in the classroom. (xi) *Classroom Management*: Teachers can use tablets as a monitoring tool, such as offering game time as a reward. They can use timer apps and noise level apps for more classroom management help. (xii) *Save Paper*: Tablets allow teachers and students to go paperless (Matthew Lynch, 2018).

Benefits of Tablets

The common benefits of the tablets are (i) easy to use than desktop and laptop computers, (ii) connect all major stakeholders (students, parents and teachers), (iii) quickly deliver engaging material to the students, (iv) personal approach, (v) freedom of access, (vi) more cost-effective than textbooks, (vii) faster visualization and quicker reporting, (viii) improving computer skills, (ix) easier student assessment and classroom management, (x) paperless homework, (xi) learning simulations, and (xii) collaborative learning.

IPads

The iPad is a mobile computing device, but not a personal computer. It allows users to control the device with their fingers. It is a powerful creative tool, interactive textbook, and a universe of apps and content make for endless learning possibilities. It enables endless opportunities to create hands-on, customizable learning experiences. iPads are providing immediate communication for students and teachers. Teachers can have assignments listed for students to see before even arriving to class. It allows for improved record keeping of students' progress. Many schools have implemented iPads in the classroom as learning tools. The ways to use iPad in the classroom are given below.

(i) *Display Work*: By connecting iPad with a device like Apple TV, one can display information from iPad to the big screen for the students to view. This allows the teacher to walk around the classroom while teaching instead of just being stuck up front. (ii) *Create Instructional Content*: There are quite a lot of cool apps from which the students and teachers have many advantages. Lessons can be made more

customized and engaging than ever before with iPads in the classroom. (iii) *Interact with Students*: Teachers use iPads to allow students to send questions and comments to the teacher while they are presenting something. Teachers can choose in order to contact the students. It is very useful to send messages to the students. (iv) *Personalize Learning*: Every student learns at a different pace and through various ways. iPads in the classroom can provide opportunities for students to be able to work and excel at their own level and pace. Teachers can use apps and games to make learning more personalized to fit each student's progress. (v) *Classroom Management*: iPads can make managing a classroom and keeping up with a class full of students much easier. To increase the progress of the students, the teachers can make use of the ipads. (vi) *Eliminate Distractions*: iPads are highly useful for learners. This can be combated by creating lesson plans that do not allow a moment for distracting or by downloading an app like ClearLock. This app allows teachers and parents to lock certain apps for a period of time. (vii) *Live feedback*: iPad is used as great tool to gain live feedback. Students with problems may feel more inclined to reach out in the

privacy of their iPad accounts. This not only allows educators the space to tailor their feedback but provides insight into classroom statistics. Students would have instant homework corrections with the use of this. (viii) *Connecting outside of the classroom*: In most of the schools, this device is used outside of the classrooms. It gives utmost benefit and time saving while doing their home work. This virtual connection is necessary if technology is to be successfully used. (ix) *Use the multimedia opportunities*: iPads bring with them opportunities away from the traditional textbooks. The use of videos, audio, and Edtech products are opening doors for kinetic and visual learners. Educators should help the beneficiaries to use it properly. Specific edtech products allow educators to focus the features of the iPad that will be utilized in lessons (Matthew Lynch, 2017).

Benefits of iPads

The benefits of the iPads are (i) the iPad is much lighter, smaller and easier to carry than most PCs on the market. (ii) It is a much more simple and

intuitive device to use. (ii) Applications are designed to be simple to use and many students who are not computer literate, but who are used to using 'smartphone' applications will find the iPad much easier to cope with. (iii) It is a quick, simpler and importantly, fun device which will encourage to use their own imagination and creativity. (iv) The hands on approach make it a much more exciting tool to use than a standard personal computer (Gary V. Ireland and Maxim Woollerton, 2010).

Conclusion

Even though the technological developments harvest many a desired thing, it could be a failure in the classrooms. Educators need to have a reason to use the technological devices and in turn, understand the new problems and procedures that come with it. Using these technological devices may be great education tools, but it needs to be worthy of beneficial in the classroom. So it is important that technology support to learning in schools is not wasted and therefore care is to be taken in choosing the use of the technology to support learning.

References

- Andrea Leyden (2015). 40 Uses for Smartphones in School. Retrieved from <https://www.goconqr.com/en/examtime/blog/40-uses-for-smartphones-in-school/>
- Asoke Nath & Sneha Mukherjee. (2015). Impact of Mobile Phone/Smartphone: A pilot study on positive and negative effects. *International Journal of Advance Research in Computer Science and Management Studies*. 3(5), 294-302.
- Gary V. Ireland & Maxim Woollerton (2010). The Impact of the iPad and iPhone on Education. Retrieved from https://www.u-bunkyo.ac.jp/center/library/ima/ge/fsell2010_031-048.pdf
- Matthew Lynch. (2017). Tips for Using ipads in the Classroom. Retrieved from <https://www.thetechedvocate.org/tips-for-using-ipads-in-the-classroom/>
- Matthew Lynch. (2018). *15 Ways to Use a Tablet in the Classroom*. Retrieved from <https://www.thetechedvocate.org/15-ways-to-use-a-tablet-in-the-classroom/>
- National Centre for Technology in Education (2009). NCTE Advice Sheet - Interactive Whiteboards. Retrieved from www.ncte.ie/ICTAdviceSupport/AdviceSheets/
- What is tablet? - Definition from WhatIs.com. (n.d.). Retrieved from <http://searchmobilecomputing.techtarget.com/definition/tablet-PC>
- <https://www.focuseduvation.com/using-ipad-classroom/>
- <https://www.securedgenetworks.com/blog/5-smart-ways-to-use-ipad-technology-in-the-classroom>
- <https://mytechclassroom.com/benefits-of-tablets-in-the-classroom>

To cite this article

Jaini, C., & Vel Murugan, P. (2021). Technological Devices in Teaching and Learning. *John Foundation Journal of EduSpark*, 3(1), 44-52.

ABOUT THE AUTHORS



Jaini, C is a M.Ed. Scholar in Bishop Agniswamy College of Education, Muttom, Kanyakumari District, Tamil Nadu, India. She holds Master degree in Tamil. She has participated and presented papers in seminars at regional, national and international level.



DR P. Vel Murugan is working as an Associate Professor of Education in Bishop Agniswamy College of Education, Muttom, Kanyakumari District, Tamil Nadu. He has put in fourteen years of teaching experience both at undergraduate and at post graduate level. He has got the State Level Award in Project Work, Best Faculty Award and Life Time Achievement Award. His area of specialization is History Education, Educational Psychology, Educational Technology and Research Methodology.
