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THE EFFECTIVENESS OF COMMUNICATION TECHNOLOGY, IPAD IN DELIVERING MESSAGES FOR SCHOOL STUDENTS

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Abstract

iPads are a device designed through the combination of computers and tablets. The use of the iPad is widespread and it can cover all aspects of usages regardless of whether it is in the office for official tasks or for casual activities such as playing video games and surfing the internet. As a form of communication technology, the iPad is designed to facilitate communication through browsing the internet, receiving and sending emails, connecting to social media and for anything else on the go. This device is also a medium to gain knowledge in schools; as early as 2010, the iPad was used as a learning and teaching tool in selected schools in Malaysia. This study was conducted to examine the effectiveness of iPad usages among high school students. The qualitative method of semi-structural interviews was selected for this study. The researcher interviewed four teachers from secondary school who were using iPads as part of their learning and teaching. This method of data collection continued to interview eight students, face-to-face to ensure the flexibility of using an iPad in the learning environment. The results of this study are to achieve the objective, which is to determine if the iPad, as a communication technology device, has a positive impact in terms of helping to acquire knowledge amongst the students. As the conclusion, the article is about the efficacy of iPad usages in schools, and the challenges of acquiring knowledge of the latest communication technology devices.

Keywords: Communication technology, education technology, iPad, IR4.0, secondary school

1. Introduction

In the development of the Industrial Revolution 4.0 (IR 4.0), communication technology triggered a phenomenon that transcends border and space. There is no denying that with the outbreak of this Industrial Revolution, it has a direct impact in the field of education that began to implement the smart learning (Chung & Kim, 2016). Crompton (2013) sees smart learning helped to improve the teaching techniques of teachers in schools, as students' intelligence are now increased and exposed to variety of resources. Henderson and Yeow (2012); Ireland and Woollerton (2010) see the iPad as a convenient mobile device. It has the same size as the book size, lightweight, portable, wifi-accessible anywhere, longer battery life than laptops, less technical issues and touch screen are the advantages of this device to replace the thicker books.

1.1. Communication technology as the medium

McLuhan (1964) does mention that communication technology is a medium that helps to advance the process in the communication. IR4.0 proves that communication technology nowadays is the advancement in production, design and variation of devices, which enhances communication via digital with multifunction to connect people from several of medium (Sofia Hayati & Rosninawati, 2019).

According to Sofia Hayati and Rosninawati (2019) the development of communication technology, which combined technology from computer and smart phone, transformed analog to smart technology. This process of evolution continues to meet the life's expectation of every human being and resulted a device called as iPad. Zakiah et al. (2018) admit that device is one of the necessities, which is used for communication, education and the medium to find information. Device can benefits everyone in this world especially students in their learning process and also for self-development process (Zakiah et al., 2018). Along with the IR4.0, the increasingly real development of technology is no longer the boundary in human communication in this world. Communication technology is a medium that holds electronic devices used in the process of information delivery.

Furthermore, Muhammad Heriyudanta (2016) admitted in the field of education, most of the schools are trying to provide adequate facilities supported by the sophistication of science and technology to produce students who are competitive and have a high level of knowledge and skills in line with IR4.0. This communication technology is also related to how to use technology as an aid in communication or information delivery process from one stage to another (Wan Idros et al., 2017).

1.2. iPad usages in school

The smart learning that emerged from IR4.0 helped to improve the teaching techniques of teachers in schools and expand the way of learning among students too. iPad is introduced as one of the flexible tools that spark student engagement with new ways to learn inclusive with software that helps the educators to come out with innovative tools in teaching. Several studies have been conducted on the use of iPad in schools showing positive effects in giving encouragement to students as well as a positive

experience for teachers and students (Chou et al., 2012; Churchill et al., 2012; Henderson & Yeow, 2012; Hargis et al., 2014; Hui, 2016; Rosninawati et al., 2019).

Thus, it can be seen that the efforts of some schools in Malaysia that use technology as a teaching aid in learning and teaching open a positive perspective in supplying knowledge to students. iPad teaches school students to be more positively responding to technology especially in managing their own learning time and their involvement in each subject (Rosninawati et al., 2019). According to Hui (2016), using this device also can train teachers to be facilitators who facilitate the learning and teaching process. By using the iPad, teachers become more creative in building learning content to students (Hargis et al., 2014; Hui, 2016) .

Consequently, communication technology devices such as iPad can be used in education system with a meaningful role as a teaching and learning tools (Karsenti & Fievez, 2013). The effectiveness of the iPad has been studied as an effective medium for school students in acquiring knowledge (Chou et al., 2012; Churchill et al., 2012; Henderson & Yeow, 2012; Hargis et al., 2014; Hui, 2016; Rosninawati et al., 2019). iPad is said to be a device that facilitates teaching and learning such as attracting students to focus on learning, facilitating learning itself among students such as for information retrieval, making learning more interactive and effective and facilitating teachers' teaching skills with the help of iPad (Henderson & Yeow, 2012; Hui, 2016).

2.   Problem Statement

The increasingly popular use of iPad in the classroom is seen as a technological potential for education that motivates students to learn (Rosninawati et al., 2019). Hui (2016) sees that the iPad can cultivate interest and seriousness among students, especially when discussions among peers are held in class. This is an encouragement for students' participation in the class, by providing an up-to-date medium and facilitating learning and teaching (Muhammad Heriyudanta, 2016). However, there are a few past studies that deny the advantages of this iPad (Donker et al., 2013; Salmah & Malisah, 2015). According to these researchers iPad may harm teenagers physically and mentally, instead it can cause mental health (Salmah & Malisah, 2015). Some parents were not happy about this development, the consent is their children may spend more time playing online games, or chatting on the devices instead of focusing on their studies and spending time with family.

Therefore, a proper guidance and monitoring from both teachers and parents are needed in order to make sure students are not carried away with iPad, which a transporter to the borderless world. The role of teachers in education is irreplaceable especially in implementing IR4.0 in learning with devices (Siti Zubaidah, 2016). Teachers in this era are no longer serve as the main reference. Sutan (2016) emphasizes the role of teachers more broadly as facilitators, in addition to the digital era that also apply blended learning-based, which facilitating and monitoring their students using device such as iPad in classes will be more challenging. Teachers, who are not only as facilitators who facilitate the learning and teaching, also supervise their students' attitude. This is the reason why the researcher conducted this study, in order to verify how effective is iPad in education among school students. Besides, having the negative impact, the advantages and use of iPad from a positive angle still strengthen the reason why iPad is chosen for teaching and learning in school.

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3. Research Questions

- How effective is communication technology tools, iPads in delivering messages to school students in education?
- How teachers and students used iPad in their teaching and learning?
- Did learning with iPad increase students' performance in academic?
- What are the challenges of using the iPad as learning tools in education?

4. Purpose of the Study

This study was conducted to examine the effectiveness of iPad usages among high school students. The purpose is to determine if the iPad, as a communication technology device, has a positive impact in terms of helping to acquire knowledge amongst the students.

5. Research Methods

In an effort to prove that the iPad has a positive impact on the learning and teaching to school students, this study implemented qualitative research and semi-structured interviews were conducted among eight students from two schools, namely at Sekolah Imtiaz Ulul Albab, Melaka (SMIUAM) and Kolej Genius Insan Insan (KGI) (formerly known as Kolej Permata Insan) in Negeri Sembilan. Meanwhile, this method of data collection continued to interview four teachers, face-to-face to ensure the flexibility of using an iPad in the learning environment. The selected teachers were chosen from four schools that are implementing the used of iPad in teaching and learning. They are from SMIUAM, KGI, Maktab Rendah Sains Mara Taiping (MRSM Taiping) dan Sekolah Seri Puteri (SSP).

The interview questions revolve around the way teachers and students adopt the iPad in the classroom while studying, the challenge of using technological devices in learning and teaching and seeing the pros and cons of the iPad to the learning process of students in school. The time allocated in this semi-structured interview session is approximately one hour. Respondents were free to talk about their experiences with the iPad based on the questions asked by the researchers. Researchers always ensure that the answers given were in line with the objectives and questions of this study. Themed analysis is used to analyze each of the data obtained.

6. Findings

Based on interviews conducted, six main factors were found on the usages of iPad among school students. These are IR4.0, teaching and learning (PdPc), interactive learning, flexible, motivation and efficient. These factors were the most commonly stated or cited during the literature review and interviews. These six factors contribute towards the effectiveness of iPad as communication technology in delivering messages for school students.

The first factor sees iPad in education is one of the initiatives in implementing IR4.0. Respondent 2, a male teacher from KGI, responded that it was easier for him as a teacher to deliver teaching materials to students by using a device, namely a smart device, iPad in this technology era. The use of iPad in

teaching and learning helps teachers to support the government intention to implement IR4.0 in education. Respondent 4, a female teacher from SSP looked at this method as one of the way to support IR4.0. According to her, class activities can be enhanced in a more sophisticated way when previously students presented their discussion output using *'majong'* paper, but now all presentation can be submitted in Google classroom.

- students born among Generation Z are really fond of devices, and when these devices are used in learning, it becomes more effective. (Respondent 1, a female teacher from SMIUAM)

- At first I was worried to use this technology to students, after attended courses and training, I understand this technology really help in teaching and learning, plus the students are the new generation, so this is their thing. Why should we deny it? (Respondent 3, a male teacher from MRSM Taiping)

From the interviews, the second factor found is about communication technology that used in education as an effort to facilitate learning in schools and the implementation of the learning and facilitating (PdPc). PdPc has expanded the role of teachers and the use of devices in learning and teaching activities do not replace teachers' position who responsible in conveying knowledge to students. According to Hui (2016), teachers remain as the main source of reference for students. The teacher's job is only as a facilitator and resource person in order to validate the information obtained by students from the virtual world.

- Teacher is a mediator, a facilitator. For example, instruction was given to students to access certain websites, which contained stories about certain topic and information, students will go through the content, and they explored, discussed and presented about the information they found. At the end of the discussion, the teacher will AirDrop the notes (slides). Students will gain their own knowledge. (Respondent 1)

- Me as a lecturer need to think like a supervisor, observed students while they were studying, anything they (student) did not understand, they could ask me via iMessage (which is Apple apps), then we discussed in class during their presentation, anything that they were not clear, (can) ask me. (Respondent 2)

Thirdly, the main factor of using technological devices in schools is to help the learning and teaching method in the classroom become more interesting and interactive. This also can improve student-learning performance. Respondent 2 was telling about students' participation in the classroom where this device able to increase students' involvement in any discussion organized by their teacher. The use of iPad can encourage students to engage in cognitive and effective learning with positive behaviors throughout the learning period (Hui, 2016). Hui (2016) also highlighted that the use of iPad could increase students' involvement in any activity related to group work, discussions and student-centered activities. Students are able to explore the applications provided by *Apple* in the iPad. *iMovie* is the most popular application among students at KGI because it produced videos that students use to present results from their discussions.

- Previously, in making sure students understood what was being taught, students were given exercises — by answering common questions, but by using an iPad, students solved questions

more creatively, for example using Keynote and adding voices, pictures, videos and various other presentation elements. Utilized such as Garageband, (and) Sketches. (Respondent 1)

- the learning process become more interactive. I used apps called Classroom, which I can share notes, codes with students simultaneously. I can create group according to class. I can see all students from that particular class and share with them notes, activities, screen, instead I can see their screen if they were answering my questions or trying to open unrelated apps or website. (Respondent 4)

According to Henderson and Yeow (2012), the iPad is a flexible device for children's learning because of its lightweight, user-friendly and mobile features. Flexible is the fourth factor found in this study, which this device is practically used to access the content of the syllabus, usually provided by teachers online. The combination of these informational devices for school students is proven useful especially to access the content on the internet, it is a good combination of blended learning or eLearning (Sutan, 2016; Rano et al., 2012). The practice of blended learning make the teaching delivery easier, where, the process of learning is not necessarily happens in the classroom (Hargis et al., 2014). Blended learning provides flexible space and location. The existing of technological devices such as tablets, computers or iPads, give more choices to students work independently in order to complete their assignments. This is also an alternative for teachers who at the same time need to attend meetings, seminars, training etc.

- This is what special about Apple, they have a department to develop education apps special for students and teachers in schools. They will help us in terms of using the apps and give training too, ok, example iTuneU, we can plan like RPH (in schools that have objectives and others). And the use of iTuneU, it is easy especially to interact with the boys, we can chat, delegate assignments – the students can access using the code, to proceed with their task, submission and then assess by teacher via iTuneU. In iTune U we can set the time limit, for example, students can answer the questions according to the time setting, once time is up, students will send the assignment, then the teacher can see who has submit and who hasn't. (Respondent 1)
- .., there apps such as messenger that make this learning process easier for teachers and students. Teacher can share notes with us without entering the class, and then we can work on our own. (Respondent 12, a male students from KGI)

Mira Adila et al. (2017) assert that electronic gadgets can enhance and improve students' learning process as well as provide better teaching method. This statement supported the fifth factor about how the used of device in school motivates students to increase their performance in learning. Respondent 2 agreed that when it comes to study motivation, students are more active participating in class discussion and completing assignments compared the way students react when traditional learning were applied before. Students show their creativity in presenting idea when they are exposed to various apps in iPad such as iMovie, Sketchbook, Canva and GarageBand. The way the students presenting their idea through apps in gadgets showed are they are talented and they can become more inventive if the teachers give more opportunity to explore with a proper guide. In addition, research data from the interviews with school students' proof that their motivation to study or learn new topics becomes more interesting with

apps provided in the iPad. For instance, Quizziz, Keynote, iMovie, Sketchbook or Kahoot are apps that frequently used among students in classroom.

- I like quiz application such as Quizziz. While for notes from textbooks, ebooks, or iBook I will simplify it using Pages or I make my own notes using MindMeister. (Respondent 7, a male students from SMIUAM)

- They're a lot of apps that we can explore in iPad. To search for information I like Safari and YouTube. To do designing such as for poster I use Pages or Canva, very popular for iPad. Sometimes I use iMovie for video and for slides presentation I prefer Keynote. Usually for essay writing I use Pages. (Respondent 10 , a female students from KGI)

Lastly, the sixth factor is effective, which this findings sync with the objective of this article to see the effectiveness of device in delivering messages especially in teaching and learning. Obviously, school students experience better exposure when they know how to make full use of the device. As Respondent 5's feedback, he performed better when he started his learning with iPad especially in language subjects. Respondent 6 and Respondent 7 gave the same responses about their improvement in academic performance especially when they compared with their previous achievement. This is proven that using iPad helps the students to understand their lesson better because the learning process become easier since they can access teaching materials from anywhere, and at anytime, and learning is conducted in a fun atmosphere. Hence, students' active participation in online learning using iPad such as in discussion contributes significantly to their academic result (Hui, 2016). In this study, the researchers picked up similar responses on the effectiveness of using iPad and student performance in learning from the respondents interviewed.

- Improving academic performance, I can divide it into three categories. First, academically, there are improvement but not very obvious. That is, students (who learn) traditional way and then they have iPad, and iPad make their performance better. Secondly, in terms of task, it is very obvious. Before, when I asked for the assignment, people (students) did not do it, I was very disappointed. But, when iPad was introduced, they (student) made it. And thirdly, students have fun or not (study in class) - now (iPad era) during class… I do not see sleepy faces among them (students), I do not need to warn people (students) who talk to their friends (during my lecture), because all busy with their works (study/task). (Respondent 2)

- Not obvious yet, because the implementation of the iPad is still new, not even a year (at this school). In term of academic achievement it has not been showed yet but in term of the development of creativity (from assignments) it is obviously shown. (Respondent 1)

The development of technology makes people's life easier especially in daily affairs. The main purpose of the creation of technology is to ease communication process. Thus, iPad as one of the communication technology device, is proven as one of the tool that facilitate the dissemination of knowledge between teachers and their students in learning and teaching in schools (Hui, 2016; Henderson & Yeow, 2012).

7. Conclusion

Finally, as the conclusion, the use of device such as iPad at school is an effective device for learning and teaching. This learning aid in this era related to technology such as device will provide a platform for students to gain incredible knowledge especially in this borderless age. iPad is proven as a tool in communication technology that can advances school students in their learning process as what IR4.0 is planned for the whole community in this world. The findings present that the use of iPad as a tool in communication technology is useful and in line with current needs. This device's usages among school students are able to stimulates higher-level thinking skills, problem based learning, contextual learning and collaborative learning as these are the elements that need to apply in school syllabus under Malaysian Ministry of Education. In addition, these elements are applied in learning with communication technology devices, which from the findings the school students are adapting iPad very well in their study in order to make them understand enough on what they learnt and use common sense at a high level by mastering the skills of evaluating, applying, analyzing and creating.

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