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Factors Affecting the Use of Google Classroom among Secondary School Students

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Abstract

The development of education today has changed in line with the development of technology nowadays. Delivery methods have changed from traditional teacher-centered methods to methods website-based or online. The Ministry of Education is aware of this development and has formulated the Malaysia Education Development Plan 2013-2025 with the aim of utilizing ICT in pupils learning. This study aims to examine the factors that influence the use of Google Classroom among form four students in secondary school. This quantitative study involving a total of 66 secondary school students as respondents. Data were analyzed using software computer Statistical Package for Social Science (SPSS) version 22.0. Testing for the study hypotheses was performed by using Pearson Correlation testing method and t-test. The findings of the study show the level of ICT skills of students and the level of ICT facilities available in the studied school are at a low level ($M=2.43$). In addition, the study also found that there was a significant relationship between students' ICT skills and ICT facilities with the level of use of Google Classroom among students. Therefore, it can be said that the ICT skills of students and ICT facilities are among the main factors influencing the use of Google Classroom among students in this school. To achieve the aspirations of the Ministry of Education Malaysia (MOE) in making Google Classroom as a transformation in education in the new millennium, researchers have suggested several matters for the action of the MOE itself and the school administrators in which the monitoring continued by both parties which is believed can improve the application of Google Classroom in teaching and learning of all schools in Malaysia.

Keywords: Google Classroom, Application, ICT Skills, Teaching and Learning, Web Tool, Digital Age, Virtual Learning.

Introduction

Google is a famous Web 2.0 tool with a variety of useful features and applications. Because of its unique built-in functionalities that offer pedagogical, social, and technological affordances, it, like many other Web 2.0 technologies, offers potential for teaching and learning. Google Classroom is a new component in Google Apps for Education that was introduced in 2014. Teachers can create and arrange assignments quickly, provide feedback swiftly, and connect with their classes with ease in this classroom. The use of the Internet in education has grown rapidly in line with the advancement of Information Communication

Technology (ICT). Various concepts in education has been introduced by certain parties as a result of the boom of Internet technology and the development of communication to benefit educators. Virtual teaching and learning is one of the growing fields in this Internet era. Technological advances have given new challenges and need to be harnessed to enhance the prestige of the teaching profession.

Because the goal of this research is to dig further into the usage of ICT in the teaching and learning environment, it's important to remember that this topic is wide and has many elements to investigate. In order to narrow down the topic area, I chose Google Classroom as the primary focus of the study due to its widespread use. Google Classroom is designed to be used as a cognitive/pedagogical aid in teaching and learning among teachers and students all over the world. Instruction that is not augmented by the use of computer software is referred to as traditional instruction. Using Google Classroom also encourages students to acquire higher-order thinking skills, problem-solving skills, and all of which are more desirable in this digital age.

Malaysia Education Development Plan 2013-2025 introduced by the Ministry of Education Malaysia (MOE), has set a goal to utilize ICT in teaching and learning. In line thus, the ministry strives to leverage ICT to increase the efficiency of the means educational delivery. Since the introduction of the Internet in the education system in Malaysia, many changes have taken place. It has changed the pattern of life of communities and societies around the world in its use in the field of education. Internet usage continues to grow over time (Noraini et al., 2010). Virtual learning which is an Internet-based teaching and learning process is a field that is also evolving in this ICT era.

Introducing technology into the educational setting is one approach to keep up with the times (Bruce and Levin, 1997). This means that incorporating current technology or ICT into the teaching and learning environment demonstrates that the learning environment is modern and responsive to global trends. Using technology in the classroom, particularly digital technology, as a tactic to support the teaching and learning process could be one way to make education more entertaining and increase student engagement (Siefert et al., 2019). This study was carried out to investigate this aspect and to see how technology can operate as a bridge in the educational setting. Every student needs to have access to quality education and integration of today's world of technology (KPM, 2012). To realize the initiative, KPM has collaborated with google and introduced the Google Classroom project. Under the project in question, all primary and secondary schools have been equipped with high -speed Internet access without 4G wires that enable teaching, learning, collaboration, and administration to be implemented through Virtual Learning Environment through the use of DELIMa account that can be accessed by all students, educators and parents as well.

The DELIMA platform was launched in early 2020 and implemented in conjunction with the existing TMnet network function as a learning community for the entire school population. This facility is developed in a graded in all government schools are expected to receive Internet access and VLE in the middle of 2021. The Google Classroom's platform is an integrated solution method that enables teaching, learning, collaboration and administrative management is carried out through a virtual learning platform that can be accessed at the school, or at anywhere via Internet access.

Research Objective

This study aims to assess the extent of the use of google classroom among students in secondary schools and factors influencing the use of such applications. Here are the specific objectives of this study:

1. To study the level of ICT skills of students.
2. To study the level of ICT facilities provided in schools.
3. to study the level of use of Google Classroom among students.
4. to examine whether there is a significant relationship between students' ICT skill level with their use of Google Classroom.

In line with the country's progress, the field of education today is also increasingly challenging. Educators seem to be demanded to meet the challenges of the country where on their shoulders rests the responsibility to implement and the success of all national education plans to produce students who are skilled in the field technology so that the nation's dream to achieve Vision 2020 becomes a reality.

Dissemination and delivery information effectively to students is usually given less emphasis by most teachers. Traditionally, many teachers may assume that every student is capable of accepting whatever is presented by teachers. In fact, each student has individual differences in terms of information processing ability as well as how to learn, focus and so on. Therefore, more effective communication is very important in teaching and learning method nowadays. One of the ways to increase the effectiveness of communication in teaching is through the application of technology computer. However, the extent to which teachers in schools take advantage of computer technology facilities what is there is not known. According to Mohamed Amin (2010) the use of technology in teaching and learning is no longer an option, instead it has become an essential requirement in the current education system. Digital technology can encourage the development of ideas, produce new knowledge, knowledge sharing and knowledge transfer.

Sumarni and Zamri (2018) in their study on language learning through multimedia applications found that multimedia materials can help convey information quickly, accurately and be an attraction to create a fun learning environment. In this era of globalization, the education system in Malaysia is evolving in line with developments in the field of ICT. Various new methods have been introduced and adopted to make teachers' teaching more effective through ICT. Apart from being effective, learning methods and strategies through ICT are seen as easier and more fun for students. Pupils are able to improve their language skills as well as learn at their own pace according to their needs and speed.

The use of ICT and the Internet greatly helps students access the information needed in learning. The Internet helps teachers and students find learning information more quickly and efficiently. The learning information gained by the students can be used and shared with other peers in the classroom. This makes the search for knowledge and information faster at your fingertips in the era of a borderless world like today. Students are no longer seen to rely solely on learning information from teacher resources alone. Teachers are seen in their role more as mentors and as facilitators who facilitate the learning of their students. This is in line with a study conducted by Nahar and A. Rahman (2018) who found that the ability of students to achieve excellent results in Malay language subjects is influenced by the strategies used by teachers.

Literature Review

The 21st century curriculum provides borderless learning both in terms of infrastructure and learning facilities. Students can access learning materials regardless of their location. Students are able to access learning materials through virtual learning platforms as long as there are Internet facilities. Educational transformation implemented by KPM by providing Google Classroom platform for use all students, teachers and school staff as well as parents throughout Malaysia are one positive step to make education in Malaysia on par with education in another developed countries.

However, a study conducted by the ministry in 2010 found the use of ICT in schools is limited. Almost 80% of students use ICT for less than 1 hour a week and only one-third of students stated they regularly use ICT in learning. According to a study conducted by Boon and Ngatimin (2011), the level of computers laboratory use in schools are at a moderate level and among the main problems encountered in the use of computer labs in schools is a delay in the maintenance of broken computers. Based on these studies, it is found that the ministry has taken wise steps with allocates a substantial value to the equipment of ICT infrastructure in schools, but the use ICT in schools is still at a low level. While planning and implementation at the stage the ministry looks perfect, yet in reality there are still flaws in the process implementation at the school level that needs improvement.

The use of ICT is an innovation in the education system that has been reformed aimed at making improvements in the existing education system. Razali et al (2016) found that in order to realize this, every teacher needs to be prepared and understand the role they need to play to help student learning in implementing this google classroom. All parties involved with teaching and learning, need to be prepared and play their respective roles to realize this learning program.

Moreover, a previous study by Abdullah et al (2013) found that there were four major problems and weaknesses identified. Among them are limited Internet access, insufficient time, syllabus and heavy workload of teachers. She also stated that the implementation issue is a constraint to the application of Google Classroom itself especially in rural schools. Among the issues are the technical aspects, dissemination of information about google classroom, teacher training, and monitoring is not happening perfectly in this area. In terms of equipment, it was found that most rural schools face problems related to Internet access. This has created a dilemma among the school administrators and teachers as implementers. In her study on the attitude towards the implementation of Google Classroom, it was found that teachers welcomed the MOE's intention in implementing this platform, but it turned into a negative view when teachers wanted to apply it, there were obstacles such as low Internet access that hampered teachers' efforts to use it. Mafa (2018) in his study carried out regarding of the usage of Google classroom stated that this platform is a powerful tool in instruction and learning among higher education learners.

A. Bakar (2013), in his study stated that teachers who master the use of Google Classroom will easily handle the teaching and learning activities. Information and lesson content can be conveyed to students quickly and systematically. According to Khasiman (2013), a preliminary survey on the use of web base found that there are still many teachers who lack ICT skills. This becomes more serious when administrators are blind to ICT and unable to support teachers applying this platform in schools.

Thus, there is a need to implement learning strategies and effective facilitation that can generate mastery of the subject's content knowledge well among students. This situation

has been suggested to the researcher in this study to design learning activities through a combination of 21st century learning and the use of Google Classroom application.

This is a series of recommendations from the MOE which has emphasized the need for the implementation of 21st century learning and the use of technology. It is in line with the criteria of current pupils belonging to generation Z who are exposed to various gadgets and interactive media. Search Engines, according to Dhanani (2015), are simply one of the internet applications that may be utilised to deploy the usage of ICT in the classroom and also act as a transition to the use of 21st century teaching and learning standards. Google Apps platforms, online journals, video-conferencing software, and other similar media are some of the additional tools or applications available through the use of ICT. Finally, this research project is ongoing, and as technology advances and more research is conducted in this sector, more data and discoveries will become available.

Research Methodology

The design of the study in the form of a survey type quantitative method to study the factors that influence the use of Google Classroom among students in secondary schools is used in this study. The instrument of this study is a questionnaire that contains four sections, namely sections A, B, C, and D. Section A is used to obtain background information of respondents while sections B and C are used to examine the factors that may influence the use of Google Classroom among the students. The items in part D aim to study the level of use of Google Classroom by students in school. Four scales Likert used in the study consisted of 1 = Strongly Disagree, 2 = Disagree, 3 = Agree and 4= Strongly Agree.

The study involved only 66 students of secondary schools in Port Dickson who were selected at simple random based on Krejcie and Morgan's (1970) Sample Size Determination Table. Before the actual study, a pilot study was conducted on 30 students with Croanbach's Alpha coefficient values of 0.708 (ICT Skills), 0.663 (ICT Facilities) and 0.718 (Use of Google Classroom). Data obtained from the questionnaires were analyzed using SPSS version 22.0 by using descriptive analysis involving frequency, percentage, mean and standard deviation to determine the level of ICT skills of students, level of ICT facilities and level of use of Google Classroom. The study also uses inferential statistics in the form of independent sample t-test, ANOVA test and Pearson Correlation test to see the relationship between the manipulated variables.

Findings

The findings of this study are discussed based on the objectives of the study to assess the extent of the use of Google Classroom platform among students in selected schools and the factors that influence the use of the application.

ICT Skills

Findings show that the level of ICT skills of students is at a low level (M = 2.43). The Google Classroom application requires someone skilled in ICT as well as to achieve the real objective of this application which is to create a new learning environment that is more flexible in terms of time, place, methods and learning materials. It can be concluded that the program was less effective although at the beginning of its implementation it was recognized to be able to benefit students.

There are constraints in terms of ICT skills among teachers and students in the schools involved in the study. School administrators should play a role by providing ICT-skilled teachers to create conducive situations in student learning through this platform.

ICT Facilities

The level of school ICT facilities is at a low level ($M = 2.19$). The majority of students say that low Internet access dampens the interest of teachers and students to apply Google Classroom in their teaching and learning process. They can only access Google Classroom if they are in a computer lab but the limited number of computers and unsatisfactory ICT equipment (LCD projectors) cause students to choose to study conventionally as well as the teachers. In their opinion it is easier and more effective to learn conventionally. The location of the computer lab away from the classroom and the time constraints to move to the computer lab make them prefer to study traditionally in the classroom.

Besides, most students do not have their own devices and there is no internet connectivity at home causing them to rely solely on the equipment available at school. This causes students to be slow to master online learning. This is the reason why their ICT skills are also very low. Google Classroom is one of the most user-friendly platforms and easy to learn if it is used every day. It should be used as a one-stop center for all school people to be a place to get information resources for all, including parents.

The Use of Google Classroom

The level of use of Google Classroom as a learning platform among students was at a low level ($M = 2.26$). One of the reasons for the failure of students in the application of Google Classroom is the constraint of teachers to finish the teaching syllabus. Most teachers only think of finishing the syllabus causing students not to have the opportunity to access Google Classroom consistently. These teachers need to ensure that their students pass excellently in the exams. In their opinion the use of Google Classroom takes a long time even though they are interested in using it.

The Relationship Between Students' ICT Skills Level and The Use of Google Classroom

There is a significant positive relationship between the level of ICT skills with the level of use of Google Classroom. These results show that if the level of ICT skills is high then the use of Google Classroom of students is also high. On the other hand, if the level of ICT skills is low then the use of Google Classroom among students is also low.

Conclusion

The integration of Google Classroom in teaching and learning process requires students' ICT skills and school ICT facilities the highest. The results of the study show that there is a significant relationship between the factors of ICT skills with the level of use of Google Classroom among students in the schools studied. These results have answered the objectives and questions of the study stated. There are still students who are less proficient in ICT skills. Therefore, these students should be worked on by the school and the ministry to improve their ICT skills. Unskilled in ICT will slow down government efforts towards increasing the use of Google Classroom application as a whole. Finally, this study discovered that Google Classroom, as one of the ICT apps, may be employed as a pedagogy in the teaching and learning environment. Researcher can affirm that utilising of Google Classroom as an active learning tool would supports reflection and metacognition, according to Nassim's (2018)

definition. According to Rogers, (1983) among the factors that cause individuals to easily accept an innovation is the compatibility and similarity of the innovation with existing values, knowledge and skills and in accordance with the needs of the individual.

The teacher's deliberate use of Google Classroom as a classroom technique encourages active learning in the classroom. Google Classroom supports the facilitation and serves as a practical implementation of many theories in education using technology, both directly and indirectly. According to Dhanani (2020), web-based learning is simply one of the internet applications that may be utilised to deploy ICT in the classroom and also act as a step toward implementing 21st-century teaching and learning standards.

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