

The issues and advantages of the use of new technology in Saudi education: A literature review

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ABSTRACT

Fast developments in technology have led to an increasingly widespread use of smartphone and tablet computing technologies. Schools and organizations around the world are struggling to keep pace with the growth of technology through the adoption of new technologies such as Google Education Tools. Saudi Arabian schools are no exception. Recently, several universities and schools in the Kingdom of Saudi Arabia (KSA) have started to employ new technologies such as Google Classroom in their teaching and learning process, in order to make education available to their students without temporal or spatial restrictions. On the other hand, there has been little discussion about the benefits and problems of using such technologies in KSA schools. Therefore, this paper is an attempt to determine benefits and problems of the latest technologies that have been adopted in KSA schools. It makes recommendations on how new technology can be more effectively used in the classroom, as well as discussing its potential advantages and pitfalls.

Keywords: Saudi Arabia, New technology tools, ICT, Schools

INTRODUCTION

Recently, there have been major, rapid and sustained developments in Information and Communications Technology (ICT). The acquisition and dissemination of knowledge and information have been affected by this rapid development. Many innovations and new applications have emerged, with the aim of driving the learning process forward. These technologies include, but are not limited to, social media tools such as Facebook, Twitter and YouTube, and Google for Education tools and Google Classroom. Nowadays, most young generations are affected by these developments in ICT. They use social media inside and outside the classroom (Cox, 2013). This encourages researchers to investigate the learners' perceptions of the use of these new technologies in their learning.

In the KSA, the modernization of the education system has been highlighted by the KSA's Ministry of Education (ME) as a significant part of Saudi Vision 2030 (Ministry of Education, 2017). The use of E-learning and M-learning tools in the teaching and learning process will benefit the KSA's educational system, much like the incorporation of E-government promoted KSA and "enhanced Saudi Arabia's position on many global indicators". The incorporation and

use of new technologies involve challenges and benefits; these must be studied and recognized so that prospective investment by KSA schools in new technology can be most effective.

Within this framework, this paper determines the latest technologies that have been adopted in Saudi Arabian schools. It makes recommendations on how new technology can be used more effectively in the classroom and highlights its potential advantages and pitfalls.

In this paper, the term 'new technology' is used to refer to Google Classroom tools, Twitter, Google Plus, Facebook and You Tube.

AIM AND OBJECTIVES

The main aim of this literature review is to identify and illuminate the numerous and diverse benefits, drawbacks, limitations and challenges that may be encountered when applying new technology in KSA schools. Key conclusions of related studies shall be presented, and common themes recognized. It is hoped that a more in-depth and comprehensive understanding of these problems and advantages will arise and increase the effectiveness of new technology incorporation in Saudi schools, in addition to facilitating information sharing – through greater affordability, feasibility and simplicity – both universally and in the KSA.

IMPORTANCE OF THIS PAPER

By determining and detailing the main problems and advantages associated with the implementation of new technologies in the education environment, this paper aims to inform future investment and the incorporation and use of these technologies in Saudi Arabian schools. Finally, it is hoped that this evaluation will complement the current literature in the area of new technology and enlighten future research in the field, both in the KSA and globally.

THE TYPES OF NEW TECHNOLOGIES EMPLOYED IN SAUDI ARABIAN EDUCATION

This section will present some of the technologies that are currently utilized in KSA's educational environments, both universities and schools.

Currently, most schools and universities depend on a variety of technologies in the education process. For example, many universities use a Learning Management System (LMS) such as Blackboard; however, schools can use any kind of technology as no specific types of technology have to be used by them, unlike in universities. Some school teachers use Google Classroom, which is a free web and app service that reduces the use of paper by allowing teachers to easily create, distribute, and grade digital assignments. Others use Google Classroom because of its functions, which are effective for teachers and students (Al-Marroof & Al-Emran, 2018).

In more detail, in Google Classroom, students can communicate with each other and with their educators. In addition, students are able to organize their files and they can then access them anytime and anywhere. In addition, educators can create a class and give students the code for the class, in order to allow them to join. Educators can create announcements, questions, quizzes or assignments. Also, instructors can assess their students and provide them with useful website links.

Currently, books are provided to students with a 'Barcode' so that they can be used by the learners for extra activities at home. In addition, there is a channel called IEN TV Education. This channel has online classes and a variety of exercises for both educators and students. Students are also able to download books from the channel's website and access the services of this channel.

Online social networks such as Twitter, Facebook and WhatsApp are used in the education process in Saudi universities. According to Alsolamy (2017), academic staff at the King Saud and King Abdelaziz Universities use social networks as part of their teaching methods. The study reported that WhatsApp was used by 88% of staff, Twitter by 84%, Facebook by 78%, YouTube by 63%, and Google Plus by only 6%.

LITERATURE REVIEW

This section will review some of the studies that have been conducted on the subject of new technology in Saudi Arabia. The importance of new technology and its incorporation into the courses and systems of KSA education will then be considered. The benefits and challenges listed by the reviewed literature are then examined and explored.

Alsuraihi, Almaqati, Abughanim and Jastaniah (2016) conducted a study about the use of social media in learning in the Saudi context with 381 participants. The sample came from different Saudi universities. The results indicated that the students preferred to learn with Facebook, Twitter and YouTube. They believed that these new technologies were useful for their learning. Another study was carried out by Alabdulkareem (2014) on Saudi middle school science teachers and students. The study investigated their opinions of the use of social media in education, and the results revealed that teachers believed that social media increased students' motivation and engagement with the course material. Also, the teachers indicated that social media provided students with 21st-century skills that could enhance their employability and increase their levels of satisfaction. Students indicated that social media enhanced the interactions between the students and the teachers.

There are a limited number of studies about new technology such as Google Classroom and Google Docs in the Saudi educational environment. Moreover, most of the studies that have been executed so far have examined the use of mobile learning, computers, internet, and social media in general. For example, Osman (2017) carried out a study about the impact of the Google Classroom tools on the teaching efficiency of educational college students at Shagra University, KSA. The study was conducted with a sample consisting of 60 students. These students were divided by the researcher into two groups containing 30 participants each: a control group and an experimental groups. The experimental group was taught with a Google Classroom application, while the control group was taught with the traditional method. The results indicated that there was a significant statistical difference between these two groups. The students who learned with the Google Classroom application obtained better academic results than those who learned with the traditional method. This might indicate that introducing new technology into Saudi education will improve student achievement and help them to make progress in their studies. It may also suggest that teachers should be encouraged by administrators to utilize Google Classroom in their teaching. This would be achieved through plans and strategies introduced by the ME in Saudi Arabia.

ADVANTAGES AND DISADVANTAGES OF NEW TECHNOLOGY

Advantages

One of the benefits of using new technology in teaching and learning is that faculty staff benefit (Iftakhar, 2016). New technology can help them to track their students in terms of submitting their assignments and work, in a way that is quicker than with the traditional method. Furthermore, with regard to student benefits, new technology can help learners to keep their work and files organized as it can store these files separately. In addition, new technology has the ability to make communication between teachers and students easy and it allows students to submit their homework at a time convenient to them.

Zhou, Simpson and Pinette Domizi (2012) conducted a study with 35 undergraduate pupils registered at the University of Georgia who completed writing assignments outside of class time. Most of these students (81%) did not use Google Docs before taking part in the research. The results indicated that 93% of the students agreed that using Google Docs helped them to complete their tasks. Moreover, other results showed that 50% of students would prefer to use Google Docs in the future. In addition, 85% of them felt that their attitude towards Google Docs was very positive.

In addition, these benefits were indicated by Al-Obed and Al-Shayh (2015) in a study at Prince Nora University. They conducted their study with a sample of 92 students. The researchers taught the students by using Google+. Their study investigated the advantages, problems, and levels of student satisfaction with Google+. The results indicated that the students were satisfied with learning through Google + as 95% of them agreed that it provided a quick and easy way to share pictures or videos with other students and teachers. In addition, 90% of them agreed that it increased the interaction between learners and their teachers. Moreover, 86% of the participants indicated that it improved their attitude towards learning, while 81% of them agreed that it made learning more fun and exciting. In general, the learners indicated that they preferred learning with Google + because they found it enjoyable.

Alsolamy (2017) carried out a study about the use of social networks by faculty members in two Saudi Arabian universities. The educators acknowledged that social networks were helpful and useful approaches that facilitated education, instruction and communication. Motivations for adopting social networks included overcoming social limitations (e.g. gender segregation), enhancing collaboration, exchanging knowledge and experiences, creating and refining content, and developing a more critical and reflective way of thinking.

Problems faced though the use of new technology

As there are no studies on the problems associated with the use of Google Classroom in teaching and learning practices, this section includes studies that investigated the issues linked to the use of other technologies such as Google Docs. This will provide a good understanding of the problems that students or teachers face when they use new technology in the education process. Zhou et al. (2012) found that students felt that learning with Google Docs made collaborative learning more difficult. In addition, they complained about the formatting of Google Docs because they found it difficult to go back between several documents. Zhou et al. (2012) provided solutions for these issues by mentioning that teachers can explain the details of how to use Google Docs in the classroom. This would help to avoid the problems that students might face when they use Google Docs. Vallance, Towndrow and Wiz (2010) added that one of the issues with online collaboration is that users might not possess the skills required to use the technology. In addition, they added that users might not fully understand the functions or operation of Google Docs.

In Saudi Arabia, a study conducted by Al-Obed and Al-Shayh (2015) at Prince Nora University aimed to investigate the problems that students faced when using Google Plus technology. The main problem was the lack of internet service provided to the students on the university campus. In addition, the students complained about the slow speed of the internet when they used Google Plus at home.

In Alsolamy's (2017) study, the instructors mentioned a number of challenges and obstructions that affected their use of social networks in the academic environment. The three most salient issues were cultural and community concerns, protecting academics' images online, and privacy worries.

CONCLUSION AND RECOMMENDATIONS

The primary objective of this literature review is to identify and illuminate the benefits, limitations and challenges that might occur when applying new technology in the education process at Saudi schools. It is clear that there are some impediments and obstructions that affect the use of new technology in education, such as a lack of training and a poor internet service. However, the education environment can be improved by the use of Google Classroom tools since they allow students and their teachers to interact with each other in an effective way.

As most young people nowadays have modern equipment such as mobile phones, iPads etc., the school environment in the KSA should be improved so that it is suitable for the use of new technology. New technologies such as Google Classroom tools should be adopted into the education process since they are very useful and have a variety of functions. Also, Google Classroom tools will enhance and improve teaching and learning methods.

E-learning is growing rapidly in Saudi Arabia. In the future, school students might learn through the use of new equipment rather than through books (the traditional way). As a result, it is essential to train instructors and students on how to integrate technology into teaching and learning. In order to be effective, this training needs to be held at convenient times for the educators.

LIMITATIONS AND FUTURE WORK

In spite of the number of studies reviewed here about new technology and its incorporation into educational systems, a relatively small number concern the effect of new technology on the teaching and learning process. The generalization of their results concerning school students and teachers in the KSA therefore remains limited.

This paper has only reviewed the literature about the use of new technology in schools and universities, so future studies could also incorporate quantitative or qualitative methods to gain greater insights into this new tool in teaching and learning. For example, researchers could use a questionnaire based on the TAM model about students' attitudes towards the use of Google Classroom, or comparative research could be conducted by comparing the effectiveness of new technology with that of other educational platforms. Finally, research should be carried out on students' and teachers' perceptions of the advantages and disadvantages of the Barcorde in the education process.

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