

# Risks Faces the Universities of Kingdom of Saudi Arabia in Mobile Learning

Salman Sahud Alotaibi<sup>a</sup>, Bushra Mohamed Elamin Elnaim<sup>b</sup>, <sup>a</sup>Department of Curriculum & Teaching Methods College of Education in Al-Kharj, Prince Sattam bin Abdulaziz University, Al-Kharj 11942, Saudi Arabia, <sup>b</sup>Department of Computer Science College of Science and Humanities in Al-Sulail, Prince Sattam bin Abdulaziz University, Saudi Arabia, Email: [ss.alotaibi@psau.edu.sa](mailto:ss.alotaibi@psau.edu.sa), [b.elamin@psau.edu.sa](mailto:b.elamin@psau.edu.sa)

The research is based on the case study of Saudi Arabia regarding the adoption of mobile learning and its basic risks that the region should be aware of. The study included pieces of evidence and the major finding of relevant studies while concludes the security risks that come along with mobile learning. It further exhibits that Saudi Arabia is revolving rapidly in an area of e-learning while in near future, it will be leading in an area of mobile learning as well. However there is an essential need for the security check and surety of the data security before implying mobile learning on the education system. The major hazards are the primary cyber-threats like malware and third party involvement however, there is a necessary need to deal with these risks to avoid major loss.

**Key words:** *Saudi Arabia, E-learning, M-Learning, Security Risks.*

## Introduction

This paper is based on the case study of Saudi Arabia while the data and theories were collected from different relevant reports and studies. It is descriptive research which tends to explain the risks that can be faced while adapting the new techniques of learning. The results of these searches were shortlisted as per the year of publication. For the purpose of this paper, only studies and reports published after 2008 were used in order to examine the phenomenon of mobile learning in Saudi Arabia as well as its hazards.

Universities of the Kingdom of Saudi Arabia faces number of risks. Though developed countries have strengthened their security management quite a lot, there is still space for risks while the countries that are adopting these technical approaches are still at great risks. Along with technical development, threats are also being smarter. There are several connections, devices and other things that are involved when some region adopts mobile learning. The major security risks include that the applications are owned by the third party. Since the application that is providing data are neither verified by device developers nor the user, there are significant numbers of chances that the data you store in that device or provide to the particular application is in vulnerable position. Several cyber-attacks and malware can attack the device while if one is dealing with any kind of sensitive information can be at great risk. Usually, the applications that provide guaranteed security cut the third party involvement in order to make sure that the user data is safe, however, since m-learning is in progressive mode in Saudi Arabia, there are number of points where devices cannot defend themselves. According to statistics 42% of the applications contain malware while 6% can be the reason for risk.

Another security risk that m-learning may face is that numbers of security software are not compatible with the operating system of mobile. This eventually makes it critical to make sure that device and data are secure. Moreover, there are some of the privacy hazards that users may come across while using the m-learning techniques. If there are links and sites that may help the student to learn in better manner, there are spams as well and in that case scenario, your data might go into wrong hands through different viruses and malware.

## **Discussion**

### ***What is Mobile Learning (M-Learning)?***

There is no universally accepted definition of mobile learning. Mobile learning or m-learning has been defined by various authors. There is a definition that “the stipulation of education and training on PDAs, palmtops, smartphones and mobile phones” (Hashemi. et al 2011) while it is also defined as “e-learning carried out by means of mobile computational devices (Traxler, 2005)”, mainly to PDAs and digital cell phones (Parsons, Ryu, and Cranshaw, 2006). Some authors defined m-learning as “eLearning that uses mobile devices” (Parsons, Ryu, and Cranshaw, 2006). Most academicians use a definition of m-learning which views mobile learning as learning connected to a mobile device. “The mobile phone is evolving towards the dominant medium” (Sharples. et al, 2009). Another author says that the mobile phone is becoming the primary medium through which people conduct their shopping, banking, booking of flights, etc, making it the “single unique instrument of mediating communication not just between people, but also between people and institutions or more generally between people and the world of inanimate objects”. Some studies say about a general classification of existing mobile learning systems (Traxler, 2005). While some have

described a framework for mobile learning systems based on education component (Traxler, 2005). One of the authors emphasized that “mobile learning is essentially the evolution of e-learning that completes the missing components of an e-learning solution” (Sharples. et al, 2009). Other authors have defined m-learning very simply just as “as e-learning through mobile devices” or “an extension of e-learning”. Few of the authors also defined m-learning as “any educational provision where the sole or dominant technologies are handheld or palmtop devices” (Parsons, Ryu, and Cranshaw, 2006). Researches talks about how m-learning has been defined not just from a technological some researchers (Hashemi. et al 2011), m-learning is “any sort of learning that happens when the learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of the learning opportunities offered by mobile technologies” (Parsons, Ryu, and Cranshaw, 2006). There are significant amount of different definitions that indicate different applications of mobile learning. While all adverts that major role of mobile learning is to provide the learning resources through technology.

### ***Vision 2030 goals in education in Saudi Arabia***

This vision in the field of education came to advance the economic development because of the belief of the Kingdom that education is the basis of development. And the spirit of progress, minds are built and ideas are created. In order for a person to be able to get acquainted with his skills and abilities, and consequently, he can set his goals in a proper way, and join the labor market, thus contributing to the elevation of his homeland by pushing the wheel of economic development.

The Saudi Vision 2030 has set a set of goals that it seeks to implement on the ground, including:

- Working to get rid of the big difference between the outcome of the educational process and work requirements in the Saudi market.
- Development of the educational system with all its components and vocabulary.
- Developing skills and abilities that help students to know the appropriate job or profession.
- That there be five Saudi universities on the list of the best two hundred international universities in the world.
- Two government universities to be ranked among the top 500 international universities in the world.
- Improving the results of students 'educational achievement in the various educational levels.
- Work to develop curricula, and get rid of the method of conservation and indoctrination. With the introduction of many methods that develop students' skills.



- Encourage student talent and interest in activities in addition to education. Because of its primary role in employing the student's capabilities to suit his preferences.
- Monitor and monitor performance, by measuring the educational development index, and making adjustments.
- Providing training and qualification opportunities in the various institutions and companies that allow this.
- Attention to the role of the human resources department in various sectors.
- Create a complete file for each student on a database. To follow the developments that occurred to him since his graduation.
- Encouraging scientific research, as well as providing the capabilities and tools that help in its application.
- Supporting innovators and creators, in order to benefit from their participation in development.

### ***Universities of Saudi Arabia and Mobile Learning***

Authoritatively, the Kingdom of Saudi Arabia has reported that the nation will utilize separation learning and towards this point (Prokop, 2003), it has propelled activities to set up six frameworks for advanced education and separation training activity (Wiseman, 2010). These incorporate framework which extensions the e-learning instructive entrance framework; and the board in e-learning dispatches an honor in college for e-learning greatness, national storehouse for learning items administration for e-learning, foundation of Saudi National Center for e-learning, and separation training for college training (Al, 2010), and capacities circled e-learning the executives framework in agreement with necessities of college training in the Kingdom of Saudi Arabia; and building up the scholastic and managerial aptitudes and administration framework, e-learning and separation instruction, building electronic educational program substance and types of computerized and print for various college courses, and to fabricate the instructive entry for e-learning and separation learning and mindfulness program for electronic instruction and separation training (Drosten et al. 2014).

The tremendous demand for mobile phone acquisition and the association of the new generation with it, and the permanent use of its applications, it is necessary to take advantage of it in all different fields, the most important of which is the educational field, where mobile learning provides interactive educational applications useful for students in different stages of education, and is more effective than other systems, given For the proliferation of mobile devices and their frequent use by students many companies are competing to integrate more and more technologies and services into mobile devices.

Mobile learning is considered one of the most important systems of distance education, as it is a point at which mobile device technologies converge with e-learning and distance education systems to provide educational experiences without being bound by time or place (Mustafa, 2019). Also, the trend towards developing mobile learning skills has become a necessity. Urgent to promote the student and the educational process ”(Salman, 2016).

Mobile learning is a source of modern learning in the e-learning system, and many universities in the Kingdom of Saudi Arabia are seeking to introduce mobile learning technology in the educational field to reach high quality education, and enrich and enhance learning among faculty and students alike.

The use of the mobile phone also contributed to mastering the theoretical side and practical skills as well, saving a lot of time and reducing the cost, and not adhering to protocols and special devices for display, which makes it easier for the student to see and follow up, in addition to other features such as ease in dealing with it and its use, and the ability to see and follow up in any Place and time.

Through the study of Eid (2019) in which the researcher studied the use of the Edmodo educational platform in mobile learning for students of Princess Nourah Bint Abdul Rahman University and their perceptions towards it, one of the most important e-learning applications was employed that were able to prove its importance and advantages and spread very quickly and is the Edmodo educational platform Through mobile devices, which are classified under the category of social networking sites and are considered a secure interactive learning platform, and moreover, they are suitable for practical use with mobile devices and smartphones (Al-Enezi, 2017). And it was used to identify the students' perceptions about the impact of the use of the Edmodo educational platform on the learning process and access to information sources. 2019), because it makes education easier and effective, and a suitable and wonderful means of expression, and promotes participatory work and drives the wheel of professional development and increased performance (Al-Enezi, 2017).

(Attia, 2014), noting that during his work at King Saud University, Arabic language students use smartphones and laptop computers frequently, some of them exchange electronic study files through these devices, some of them communicate with their teachers and colleagues through SMS and MMS messages, and some of them send some electronic costs, and others Of educational practices.

Also in the College of Education, mobile applications such as SMS were used as one of the types of mobile learning, and from their results, the teaching staff were made aware of the advantages of mobile education and the importance of keeping pace with students' use of mobile education applications in order to develop the educational process, which helps to provide students with immediate feedback (Ghannam, 2016).

And a study (fahad, 2009) identifying the trends and perceptions of students of King Saud University towards the effectiveness of mobile learning in improving the completion of the undergraduate program in arts and medicine, and the results have resulted that mobile learning can be a reinforcement of the program with the aim of improving communication and enriching open and distance learning experiences.

In King Abdulaziz University experience to employ a mobile phone in the "distance education" program and take advantage of its applications to serve educational programs, in cooperation with Zain Saudi Telecom Company, as a new form of e-learning systems, which reflects the fading of time and space factors (Al-Qarni, 2012) .

Employing a mobile phone in developing interactive educational content in a step that is considered a qualitative leap in the education sector in the Kingdom of Saudi Arabia (Training and Human Development Unit, 2012) at King Abdulaziz University worked on developing interactive educational content and display it on the mobile device including (summaries, explanations, and self-evaluation questions And audio (visuals) also ensures knowledge of the academic schedule, dates of university events, and university news. This system was designed based on the principles of self-learning based on educational games, which provide positions for the student that interests him, and thus works to maintain the impact and create a new generation capable of researching and devising Information and creativity.

Researcher from Taibah University at the Language Center of the Deanship of Educational Services confirmed that mobile education is a real and practical translation of the philosophy of distance education, which is based on expanding the base of educational opportunities for individuals, and that the use of mobile devices in education and training processes allows students By following the training exercises, self-education and professional guidance in working through the mobile, she added: The most prominent techniques used in the field of mobile learning can be summarized in four technologies: the laptop, personal digital assistants, mobile phone, SMS and iPad devices.

As for Al-Baha University, mobile learning has been employed through the SMS service, and benefiting from other mobile services such as WAP and program platforms for students of the College of Education in the course of designing and producing educational software. The three of Bloom's remembering, understanding, and application as well as practical skills, students were divided into two groups, one group taught using mobile learning and the other group in the traditional way. The results of the study revealed that mobile learning had a great impact in increasing and developing practical skills related to the design and production of educational software. In light of the study results, it was recommended that mobile learning

applications in education be adopted and used in a way that serves the educational process, building learning systems based on the mobile environment, and setting up training courses for faculty members to design and develop these systems, and conduct more research and studies on mobile learning.

At the University of Tabuk, mobile learning has been employed through a program based on web pages in the light of Marzano's model of learning dimensions in developing some innovative thinking and achievement skills among students of the Department of Mathematics (Quality, 2016) and the effectiveness of a program based on web pages (electronic discussions and file sharing) ) In light of Marzano's model of learning dimensions, and given the importance of Marzano's model, which is a teaching model that includes several consecutive procedural steps, it focuses on the interaction between five modes of thinking represented in acquiring positive attitudes and perceptions of learning, acquiring new knowledge and its integration and consistency with existing knowledge and deepening knowledge And auditing them to reach new ends and results, using meaningful use of knowledge, and developing thinking skills and habits of the mind that occur during learning and contribute to its success, and from the results of its application creating a kind of group work inside groups, where students are divided into small groups during the practical application of the program in a laboratory Computer, which led to increased female students 'participation, group spirit, and work as a team for discussion, exchange of ideas and files, and working to achieve G mission is on time. Technology of all kinds works to attract attention and curiosity among students, and this is what the program has already achieved.

In Abdulaziz study (2016), which aimed to identify the extent to which faculty members employ the e-learning techniques for the techniques of e-learning, and the obstacles that prevent the optimal use of these technologies, and one of the most important recommendations of the study is to work on integrating electronic technologies in the program of preparing mathematics teachers within the study plans, Re-drafting the curricula to include employing these techniques as an educational method in university teaching, or assigning female students to carry out work through them.

As for the study of Al-sillk(2014), which, through its study, it designed a model that provides a database for the mobile learning system that includes (registration and admission services - academic courses - digital educational content in various formats for students from lectures, presentations, and educational resources such as audio, texts, pictures, and video clips And others - various tools to create a variety of learning activities that suit the goals of the curricula - feedback) so that they are compatible with the basic elements available and the most common in global and Arab mobile learning systems, according to the needs of faculty and students at King Faisal University in the light of the results of this study, researchers



recommend designing The mobile learning system depends on the model that was designed, attention to training students to use the system and how to benefit from it.

Some private institutions working in the field of educational consultancy, such as Manarat Educational Consultancy, and Abjad Institution for Educational Consultancy, also started to provide a mobile education service through which the files of educational materials, materials, and exams are sent on the mobile to the applicants of this service.

The success of any new technology, especially mobile learning, in the educational process depends to a large extent on the attitudes of learners towards this technology, as the attitudes of learners affect the extent of their appetite for them, and then the trends mainly affect the efficiency of the work of any new technological system, and may be one of the reasons The main impetus to support or resist renewal in the educational process (Halfawi, 2009).

Ultimately, mobile learning plays an important role in achieving effective educational communication and enriching it in light of the vast technological wealth. In the future, with educational developments and the diversity of applications, programs and social networks, its importance and effectiveness will increase, and it will be applied and used in most learning and teaching processes so that it becomes an integral part of traditional education.

Saudi Arabian colleges have made some noteworthy headways in incorporating versatile learning into their educational programs (Al-Khaldi and Wallace, 1999). Consequently, the higher learning foundations in Saudi Arabia are endeavoring to endeavors to incorporate m-learning into their projects (Drosten et al. 2014). Be that as it may, the pace of innovative advancement is excessively fast and subsequently, there are various difficulties that still remain (Al, 2010). One of the main e-learning foundations in Saudi Arabia, King Fahd University for Petroleum and Minerals (KFUPM), has been working with e-learning advancements since 2003 (Drosten et al. 2014). Numerous Saudi colleges are utilizing separation learning innovations, with some utilizing Short Message Service (SMS) for educating and learning (Wiseman, 2010). SMS is the "content correspondence administration part of telephone, web or versatile correspondence frameworks, utilizing institutionalized interchanges conventions that permit the trading of short instant messages between fixed line or cell phone gadgets" (Drosten et al. 2014). A couple of years back, King Saud University had started assistance that offers clients (understudies, staff, and representatives) with the capacity to send instant messages legitimately from a PC to a cell phone (Wiseman, 2010). The administration was presented as greater part of college understudies utilized cell phones, and these telephones are being utilized to give different administrations. SMS or 'messaging' has turned out to be omnipresent, with its fundamental favorable position being its adaptability and the messages can be sent either to singular understudies or to gatherings (Al, 2010). This administration gave by King Saud University, is not quite the same as the mass



promoting approach of a publicizing organization (Drosten et al. 2014). It permits the administration of resources, schools or authoritative divisions to give auspicious, significant and focused on data to their understudies.

## **Conclusion**

Concisely, the usage of mobile devices has been raised on a moderate level, while everything is becoming handier. Between all these case scenarios, education is also adapting the technical approach and making learning more portable. According to the majority of researches, the signs are affirmative and mobile learning can be a very good opportunity for number of students. However along with all these feasibilities, there come the major security risks especially in the regions that are in the adopting mode. This study was aimed to find the security risks of mobile learning in Saudi Arabia, whereas, it concludes that the particular region still requires a better cybersecurity level in order to make mobile learning common. The government of Saudi Arabia is actively working on improvements in education system, while there are still significant amount of efforts required in order to make the e-learning as well as m-learning completely secure in the region.

## REFERENCES

- Al, H., (2010). The attitudes of teachers and students towards using Arabic in EFL classrooms in Saudi public schools-a case study. *Novitas-Royal*, 4(1). 116-123.
- Al-Enezi, Y. A. M. (2017). The effectiveness of using educational platforms (Edmodo) for the Mathematics and Computer major in the College of Basic Education in the State of Kuwait. *Journal of the Faculty of Education, Assiut, Egypt*, p. 6, pp. 192-241.
- Al-Halfawi, W. S. (2009). Designing an e-learning system based on some web applications and its effectiveness in developing cognitive achievement, innovative thinking and the trend towards its use by the educational technology student. *Journal of Educational Technology*, vol (19), p (14), c (2), 63-158.
- Al-Khaldi, M.A. and Wallace, R.O., (1999). The influence of attitudes on personal computer utilization among knowledge workers: The case of Saudi Arabia. *Information & Management*, 36(4), pp.185-204.
- Al-Khalifa, H.S. and Garcia, R.A., (2013). The state of social media in Saudi Arabia's higher education. *International Journal of Technology and Educational Marketing (IJTEM)*, 3(1), pp.65-76.
- Al-Qarni, S. S. Z. (2012) .Attitudes of male and female secondary school teachers towards the use of mobile phone technology in the educational process in Riyadh. Master Thesis, Arab Orient Colleges for Postgraduate Studies, Department of Educational Technology: Saudi Arabia.
- Al-silk, D. A. I., and others. (2014). Design a proposed model for the mobile learning system according to the needs of faculty and students at King Faisal University in the Kingdom of Saudi Arabia. *Educational Technology: The Egyptian Association for Educational Technology*, Vol. 24, No. 4, 71 - 145. Retrieved from <https://search.mandumah.com/Record/699848>.
- Attia, M. Abdel-Khalek, A. (2014). Attitudes of Arabic language students as a second language towards mobile learning and their training needs to use it. *Education and Psychology Thesis: King Saud University - Saudi Society for Educational and Psychological Sciences*, No. 46, 37 - 63. Retrieved from <https://search.mandumah.com/Record/523561>.
- Chanchary, F.H. and Islam, S.A.M.I.U.L., 2011. Mobile learning in Saudi Arabia-prospects and challenges. In *International Arab Conference on Information Technology (ACIT'2011)*. Jordan: Zarqa University.

- Drosten, C., Muth, D., Corman, V.M., Hussain, R., Al Masri, M., HajOmar, W., Landt, O., Assiri, A., Eckerle, I., Al Shangiti, A. and Al-Tawfiq, J.A., 2014. An observational, laboratory-based study of outbreaks of middle East respiratory syndrome coronavirus in Jeddah and Riyadh, kingdom of Saudi Arabia, 2014. *Clinical Infectious Diseases*, 60(3), pp.369-377.
- Eid, A. b. A. R. (2019). The employment of Edmodo educational platform in mobile learning for Princess Noura bint Abdulrahman University students and their perceptions towards it: an experimental study. *Educational Journal: Sohag University - Faculty of Education*, C 58, 9 - 42. Retrieved from <https://search.mandumah.com/Record/944293>
- Fahad N. (2009). Student's Attitude and Perceptions towards the Effectiveness of Mobile Learning in King Saud University, Saudi Arabia, *The Turkish Online Journal of Educational Technology \_ TOJET* April, ISSN: 1303-6521 volume 8 Issue 2 1-10.
- Ghannam, A. B. Y. and Obeikan, R. b. A. Mohsen, b. M. (2016). The use of mobile education in the college of education at King Saud University: Applications and Challenges, *The Specialized International Educational Journal: Dar Simat for Studies and Research*, Volume 5, No. 4, 63-82 retrieved from <https://search.mandumah.com/Record/844363>.
- Gouda, S. H. M. (2016). The effectiveness of a program based on web pages in the light of Marzano's model of learning dimensions in developing some innovative thinking and achievement skills among students of the Mathematics Department at Tabuk University. *Journal of Educational and Psychological Sciences: University of Bahrain - Scientific Publishing Center*, Vol. 17, No. 3, 229 - 269. Retrieved from <https://search.mandumah.com/Record/806488>.
- Hashemi, M., Azizinezhad, M., Najafi, V. and Nesari, A.J., (2011). What is mobile learning? Challenges and capabilities. *Procedia-Social and Behavioral Sciences*, 30, pp.2477-2481.
- Mostafa, A. G. E-S. (2019). The effectiveness of mobile learning using smart phones to learn some skills in the sport of fencing. *The Scientific Journal of Sports Science and Arts: Helwan University - College of Physical Education for Girls*, vol 52, 115-142. Retrieved from <https://search.mandumah.com/Record/1007266>.
- Nassuora, A.B., (2012). Students acceptance of mobile learning for higher education in Saudi Arabia. *American Academic & Scholarly Research Journal*, 4(2), pp.24-30.
- Oyaid, A., (2009). Education policy in Saudi Arabia and its relation to secondary school teachers' ICT use, perceptions, and views of the future of ICT in education.

- Parsons, D., Ryu, H. and Cranshaw, M., (2006). July. A study of design requirements for mobile learning environments. In *Sixth IEEE International Conference on Advanced Learning Technologies (ICALT'06)* (pp. 96-100). IEEE.
- Prokop, M., (2003). Saudi Arabia: The politics of education. *International Affairs*, 79(1), pp.77-89.
- Prokop, M., (2003). Saudi Arabia: The politics of education. *International Affairs*, 79(1), pp.77-89.
- Rugh, W.A., (2002). Education in Saudi Arabia: choices and constraints. *Middle East Policy*, 9(2), p.40.
- Salman, M. E-S. (2016). The effectiveness of a training program based on cloud computing applications in developing mobile learning skills for computer teachers. (Unpublished Master Thesis), Faculty of Education, Mansoura University, Egypt.
- Sarrab, M., Elgamel, L. and Aldabbas, H., (2012). Mobile learning (m-learning) and educational environments. *International Journal of Distributed and Parallel Systems*, 3(4), p.31.
- Seliaman, M.E. and Al-Turki, M.S., (2012). Mobile learning adoption in Saudi Arabia. *World Academy of Science, Engineering and Technology*, 69(9), pp.391-293.
- Sharples, M., Arnedillo-Sánchez, I., Milrad, M. and Vavoula, G., (2009). Mobile learning. In *Technology-enhanced learning* (pp. 233-249). Springer, Dordrecht.
- Training and Human Development Unit. (2012). Mobile learning, King Abdulaziz University, Deanship of E-Learning and Distance Education. <https://elearning.kau.edu.sa/GetFile.aspx?id=134359>.
- Traxler, J., (2005). June. Defining mobile learning. In *IADIS International Conference Mobile Learning* (pp. 261-266).
- Wiseman, A.W. (2010). The uses of evidence for educational policymaking: Global contexts and international trends. *Review of research in education*, 34(1), pp.1-24.