

The Impact of Using Educational Applications in Academic Achievement for Nursing Students in Jeddah City

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Abstract – There is a major effect of using educational apps on learning performance for nursing students. Educational apps help students by providing different and effective education tools which can increase student success in their subjects. On the other hand, technology assists students in managing their time through apps, which can refine the quality of the student's life. In this study, we want to measure the effect of educational apps on nursing students. Previous research is proving there is a relationship between educational apps and nursing students' learning performance. Technology is providing techniques that help many students in the health field. Many researchers conclude that apps have a positive effect on nursing students' skills and knowledge. This descriptive study uses an online survey sent to nursing students at different levels and universities in Jeddah city to test the changes in their academic achievement after using educational apps for nursing subjects. Nursing students from different universities in Jeddah city (Jeddah University, King Abdul-Aziz University, and King Saud University) responded positively to our survey, and the result shows most nursing students in 2nd year started using the apps and tablets. GPA (grade point average) has significantly improved for students who use a tablet.

Keywords – educational applications, nursing students, academic achievement.

DOI: 10.18421/SAR61-07

<https://doi.org/10.18421/SAR61-07>

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Received: 18 January 2023.

Revised: 13 March 2023.

Accepted: 17 March 2023.

Published: 28 March 2023.



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1. Introduction

In recent years, most nursing students have given up studying papers and instead have used intelligent applications to study, and technology applications in nursing education have potential advantages for improving academic performance.

Many researchers find that many applications have been very useful in enhancing GPA (grade point average) defined as "one of the most frequently used measures in academic achievement research and is typically regarded as one of the most important indicators of a student's success at university" [1].

The purpose of this study was conducted to measure the impact between students' use of smart applications and their academic achievement at nursing colleges of Jeddah's Universities.

2. Literature Review

Similar to how a fledgling nation tries to create internationally recognized sovereign borders, the use of technology and specifically the use of educational applications in Saudi university teaching is relatively recent [2]. According to studies, people learn significantly more effectively from a combination of words and images (which technology enables) than from just words [3]. That applies to the majority of the students who were open to employing mobile learning techniques, found them handy, and appreciated having access to knowledge at all times [4]. When using those technologies in nursing they found that smartphone applications (apps) were introduced to train students using fictitious situations and real data. Students were able to apply what they had learned in the classroom and lab to real-world situations thanks to the apps. Their conclusion showed that the use of the applications helped nursing students remembering the material and promoted the growth of interview skills. The apps were considered by students as both a more practical alternative to textbooks and a fun way to learn [5].

As for the local level, at the University of Dammam, an online survey was sent to 231 students at five different health colleges during their 2nd year to determine how technology affects learning achievement. Study results show that significant benefits were in their academic achievement which increase more significantly when technology is used than when it is not used [6]. During the 2013–2014 academic year, another study was conducted to measure the impact of mobile learning applications on undergraduate students' academic progress. The experimental group ($n = 15$) used a mobile learning technique, whereas the control group ($n = 26$) attended a lecture-based classroom. The results imply that mobile learning might increase students' academic success [7]. A systematic literature search study published between 2007 and July 2017 used a BEME Review-validated tool. The review showed that medical science students had positive responses and attitudes to mobile learning; in addition, mobile learning may improve clinical competence, confidence, attitudes, and perception of mobile learning in medical sciences programs and may lead to valuable educational benefits [8].

Including adoption of educational applications has a favorable impact on students' academic performance. Mobile learning increases students' academic success and most findings affirm that they benefit from using educational apps in their teaching and learning processes at a rate of 90.8% [9]. A qualitative descriptive study interviewed the nursing students and depending on the interviews the study's conclusions suggested that the mobile APP was a useful teaching tool that encouraged the transferability of the nursing students' prior knowledge and expertise. In order to improve the user experience, technological difficulties have to be resolved [10]. In addition, the results of the Meta-analysis study showed that mobile learning improved learning performance in a positive and broadly significant manner [11]. This is, where the student's rate that used smartphones (92.8%) and medical applications (80.5%), and the results suggested that m-health applications positively influenced the educational process of students. On the other hand, nursing students who utilized the smartphone app to apply virtual simulation techniques in nursing education got noticeably superior knowledge scores, and significantly reduced cognitive burden (intrinsic and extraneous). The use of a mobile app improved the knowledge and skill performances of nursing students compared to the control group [12], [13].

According to the study, among 200 nursing students are using the mobile apps for studying nursing subjects and the results show increased level of motivation and learning.

After practicing mobile learning, they demonstrated improved study performance [14].

3. Methodology

This study used descriptive statistics with a combination of quantitative and qualitative methods to examine how the use of educational applications affects nursing students' academic achievement. We build our online survey through the FromApp for Google Form and the questions we make. This study was conducted on 39 nursing students from Jeddah's various universities and nursing colleges through an online survey that was containing an open questionnaire, a close-ended questionnaire structured, and an unstructured questionnaire that ended. This study looked at ways education could help nursing students raise their grade point averages.

4. Results

39 nursing students responded to our online survey from different universities in Jeddah city. The outcome shows that most of the students start to use technology in their study in the first year of nursing (shown in Figure 1), and they continue to the internship year because it has been very helpful to increase their knowledge. Educational applications were very useful for students to improve their GPA, which is shown in Figure 2. It provides different ways to learn photos and videos, reduce the amount of time that spend studying, help students with time management, facilitate access to a lot of research and article, and increased nursing students' productivity.

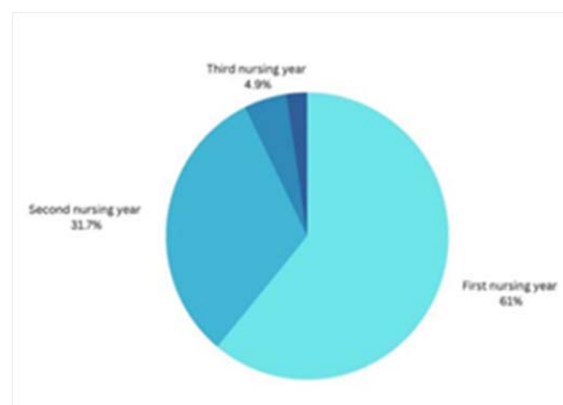


Figure 1 Students' levels and their usage of educational apps

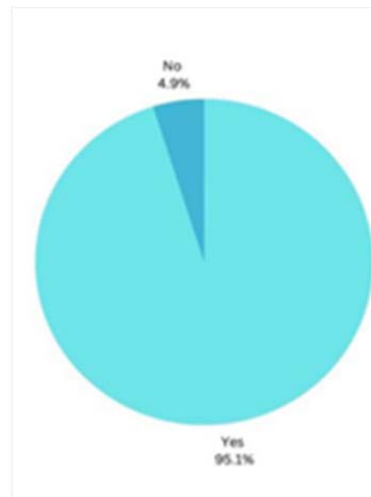


Figure 2 The percentage of students indicates an improvement in their GPA based on their usage of educational apps

5. Discussion

There are several studies in literature proving the impact of using technology on studying in nursing fields. Furthermore, research has indicated that a relatively higher degree of student learning and effective education can be achieved when the use of technology is integrated compared to when it is not. However, the smart applications in a nursing study generate a good environment that helps students to improve their understanding, abilities, and knowledge, so our conclusion is consistent with other studies. This study examines how technology (using educational apps) affects students' learning achievement generally in the nursing schools at Jeddah Universities in Saudi Arabia. The online survey contained nine questions about the effect of technology on nursing students and its association with students' GPAs. According to rustle most students were from KAU (King Abdul-Aziz University), UJ (University of Jeddah), and other nursing universities.

The percentage of students who use educational technology from our survey was 72.9% (Figure 3) and that refers to technology facilitates learning in a significant way, so the analysis of the survey responses shows that the majority of respondents indicated that they use the apps frequently and that they would be positively prepared to use these educational apps in the study and learning process.

Compared to students using the traditional methods (papers), we found that students who used technology were having increased academic achievement compared to students using study papers as shown in Figure.4. 97.6% of nursing students pointed out that using educational applications lead to facilitate the delivery of information to them, which can be seen in Figure 4.

Therefore, educational applications were directly correlated and statistically significant in students who studied with smart applications.

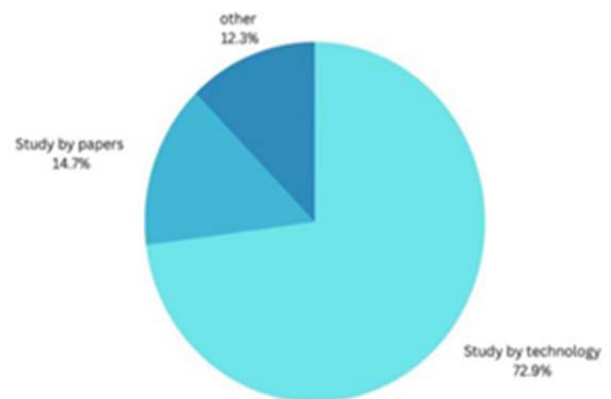


Figure 3 Proportion of students studying by using technology

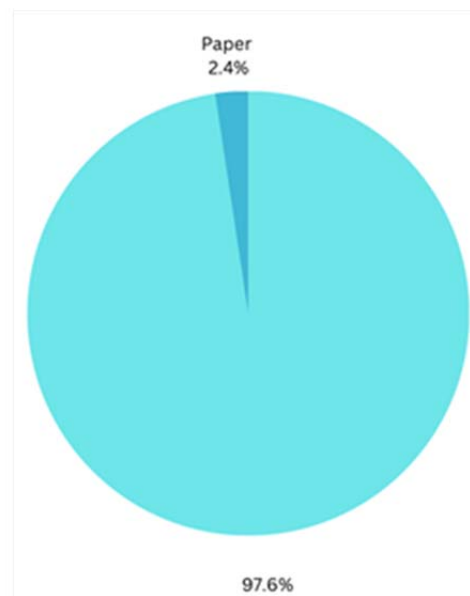


Figure 4 Percentage of nursing students who use teaching applications to make information easier

On the other hand, technology provides a different way to facilitate teamwork which enables communication among students, and that saves effort and time and increases the productivity of nursing students and can be seen in the following (Figure 5). For example, there are applications that allow users to work on the same page while they are in different areas. Other applications help students in sharing files, photos, and videos. Now it is very easy for students to study tougher through online classes which can provide video and voice calls. Figure.5 shows the technology usage rate for their teamwork.

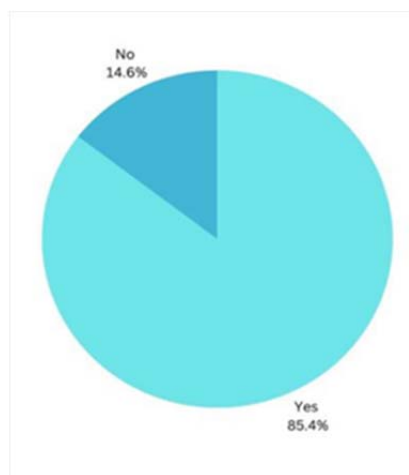


Figure 5 Percentage of technology use for students for teamwork

6. Conclusion

This research emphasizes the potential effects of educational applications on the enhancement of student learning and academic achievement in the context of nursing education. In this study, increased GPAs were identified as an indicator of the impact of educational applications on academic achievement and nursing students' success. Implementation of education applications for nursing students is viewed as both more convenient than textbooks and as an entertaining way to learn and had a positive impact on nursing students' knowledge.

It has a major effect on students' achievement because it makes nursing study easier.

The limitation of this research is that this research has limited time, which cannot allow our results to be generalized because of the small sample.

Our recommendations for future studies are proposed in light of the results obtained through the research as follows:

- Use a broader sample to analyze the impact of technology education on other schools, institutes, and colleges;
- Create benchmarks and tools to assess the impact of technology on academic achievement;
- Compare the impact of the study on technology in nursing schools located in different countries.

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