

# THE IMPACT OF WHATSAPP MOBILE LEARNING ON THE ACADEMIC ACHIEVEMENT AMONG NURSING STUDENTS

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## ABSTRACT

**Introduction:** The use of mobile learning activities in learning and teaching online course is an innovative educational technology in higher education. The study seeks to explore the impact of using WhatsApp mobile learning on academic achievement among nursing students at ILKKM Kubang Kerian (Kejururawatan), Kelantan. **Methodology:** This study involved a total of 49 nursing students who had been chosen by the "Purposive Sampling". The pilot study was done in order to determine the reliability and suitability of the questionnaires. Cronbach Alpha was used to determine the internal consistency of the questionnaires. The reliability value of Cronbach Alpha was 0.858. The methodology used is descriptive method and quantitative approach that is using the questionnaire instrument consisting of two parts, namely part A for respondent's demographic information and part B regarding perceptions of students' knowledge in using application of WhatsApp's in academic. **Result:** The findings revealed that 39 (79.60%) nursing students agreed that WhatsApp mobile learning were important in improving academic quality. However, 10 (20.40%) nursing students did not agree with the statement. The conclusions obtained from this study that majority of nursing students agreed that the WhatsApp mobile learning helps in improving academic quality. **Conclusion:** The research suggested that efforts must be done in improving the academic achievement in learning using WhatsApp mobile learning among the students.

**Keywords:** *Perception, WhatsApp Mobile Learning, Nursing Students, Academic Achievement*

## INTRODUCTION

Improvement in technology in current modern day is the cause to change the use of technology in Malaysia. Technological advancements make use of smart phones on the rise among Malaysian society regardless of age. Network internet has become a catalyst to change the process of learning drastically with the use of sophisticated technology in this era. In case of mobile learning, by using mobile devices, learners can learn anywhere and at any time (Crescente & Lee, 2011). E-learning is considered to be a new concept covering a variety of applications, learning processes and learning methods (Barhoumi & Rossi, 2013). It includes a variety of technological applications, processes, audio and video. The e-learning process designed and developed by online instructors is the new mode of the e-learning system (Tavangarian *et al.*, 2004). A well-structured learning environment must facilitate the user in connecting different tools to build, share and improve his/her level of knowledge with a variety of learning

models (Rossi, 2006; Rossi *et al.*, 2010).

There are various applications that have been built in internet network that could be used in smart phones which make it easier for users to find information and to communicate and do other useful works. WhatsApp application on average were used by all walks of life in the world to facilitate communication. Based on study done by Yalcinalp & Gulbahar (2010), WhatsApp is widely used in higher education for the enhancement of discussions and sharing information among students and their lecturers. Applications in smart phones like WhatsApp offers an alternative to improve the quality of education and is effective in learning process for students nowadays. In this regard, a study was conducted to identify the perception on WhatsApp application among the nursing students, whether they are helping to improve the quality of academic and learning or otherwise. This is because WhatsApp application can be used as a tool to link the nursing students to discussions in the group by using the applications.

## LITERATURE REVIEW

Learning is the outcome of social interactions between students in collaborative learning activities. Activities can include sharing through mobile devices, such as discussion forums (Chan, 2005). Mobile learning is a learning technology that uses a variety of learning approaches and methods across multiple contexts and social interactions (Vygotsky, 1978) with personal electronic devices (Crompton, 2013). The Internet is useful in helping students both construct and share their knowledge (Richard & Haya, 2009). The use of Internet technology by online learning communities may provide mobile learning resources in synchronous or asynchronous modes (Zengin, Arıkan & Dogan, 2011).

Kukulska-Hulme & Traxler (2007) stated that mobile devices used in distance learning are more suitable for informal learning than formal learning and are also suitable for authentic and personalized mobile learning. Study done by Moro (2016), reported that WhatsApp application can be used as media learning between students and lecturers. WhatsApp application influence the performance of learning students, although not as the main factor. Mobile learning technology helps students to make learning groups, to facilitate build knowledge and share it with other members of the group (Amri, 2014). Students and lecturers can use WhatsApp application as a medium for discussion in institutions of higher learning. It can encourage students to participate in discussions and collaborative process also (Yalcinalp & Gulbahar, 2010). WhatsApp application is very useful and effective in the education system because it is low cost and affordable (Church & De Oliveira, 2013).

## METHODOLOGY

### Study Design

In this study, the research method was quantitative, and the information was collected from the study sample. According to Sugiyono (2014), quantitative method is a method that uses a statistical analysis, it is more objective, and nature oriented to results. Quantitative method is referred to as a method of collecting data analysis in the form of numbers using statistics. Therefore, data collection to be obtained will be more easily understood.

### Population Study

Population studies focusing on nursing students at ILKKM Kubang Kerian, Kelantan. This research

involves Year 2 Semester 1 among 24 nursing students, Year 2 Semester II, which is 25. Thus, the total nursing students involved are a total of 49 people.

### Sample size

In this study population consisted of Year 2 nursing students ILKKM Kubang Kerian (Nursing) involving 49 nursing students comprising Year 2 Semester I and Year 2 Semester II was selected to represent the samples.

### Sampling Techniques

The sampling techniques used for this study is "Purposive Sampling".

### Inclusion Criteria

- Nursing student's Year 2 Semester I and Year 2 Semester II.
- Volunteer to be respondent Exclusion Criteria
- Nursing students Year 1 Semester 1, Year 1 and Year 3 Semester II Semester II
- Nursing students who was on sick leave during the data collection
- Nursing students who withdrew during data collection

### Instrument

Questionnaires are used as research instruments intended to obtain the data. In addition, the questionnaire is used to measure a person's interest either through fixed, free, checklist or the scale of rates. Suharsimi (2010), research instruments are tools that are selected and used for data collection in the current study so that the research is systematic and easily available. According to Creswell (2012), selecting existing instruments should be motivated. There are two parts in this questionnaire that is part A and Part B. Part A is demographic data with respondents which includes age, status, and level of education. This item was in the form of closed questions. Part B is associated with the levels of perception of nursing students on WhatsApp application in helping to learn among nursing students in ILKKM Kubang Kerian, Kelantan.

### Data collection Procedures

Data from this study was collected through Questionnaires in which researchers used the main source of "Primary Sources". There are two parts in the distributed question paper, namely section A about the information of the respondents, section B perceptions of the nursing students on application usage WhatsApp

application in learning. It is based on four Likert scale 1=Strongly Disagree; 2=Disagree; 3=Agree and 4=Strongly Agree. The instruments used to obtain the necessary information was collected through the questionnaire form. This is because the distribution of the questionnaire can clearly explain the purpose of the descriptive survey and the error resulting from recording the feedback is reduced (Yahaya & Latif, 2006). In addition, the information obtained from the questionnaire is confidential because this study aimed to academics.

**Pilot study**

The pilot study was done in order to determine the reliability and suitability of the questionnaires. Meanwhile Cronbach Alpha was used to determine the internal consistency of the questionnaires. The reliability value of Cronbach Alpha for the whole set of questionnaires used was 0.858. According to Konting (1993), if the Alpha Cronbach's alpha is found to have a value of  $\alpha$  of 0.8 or greater, then this value indicates good questionnaire. According to Ghafar (1999), if Alpha Cronbach coefficient between 0.8 to 1.0 means a study item is acceptable and should not be exchanged with other items. Then the survey questions distributed by the authors are suitable for use.

**Data analysis**

Data collection is done in detail for each respondent surveyed via Questionnaire. All questionnaire is collected for the purpose of consolidation of data. The result of this data is processed using computer software through Statistical Package for Social Science (SPSS) version 24.

**Ethical consideration**

This study requires nursing students as respondents for information and other related information. Therefore, the letter of authorization was sent to the Director ILKMM Kubang Kerian (Nursing) to obtain permission. After authorization, the questionnaire was distributed to nursing students to obtain data.

**RESULTS**

**Demographic Data**

This section reports demographic information analysis consisting of age, level of education, and family history. Table 1 shows the respondent demographic data. The mean age of respondents was 22.15(SD=1.50) which ranged from 18-20 years old was 3 (6.1%), the respondents aged between 21-23 years was 35(71.4%)

and 11 (22.4%) where the respondents aged between 24-26 years. Total respondents consisting of 49 (100%). The study found 17 (34.7%) of the respondent who has the education level up to 31 SPM (63.3%), respondents having a level of education up to diploma and 1 (2.0%) of the respondents have a level of education up to degree. The result of the total respondents involved, 26 (53.1%) of respondents used the WhatsApp application for 16 hours a day, 13 (26.5%) of respondents used the WhatsApp application for more than 18 hours a day, 6 (12.2%) of the respondents used the WhatsApp application for 2 hours a day, 4 (8.2%) of respondents used the WhatsApp application for 18 hours a day. The study also found 35 (71.4%) respondents have an interest in nursing and a total of 14 (28.6%) of the respondent does not have interest in the field of nursing.

**Table 1: Demographic data of the respondents (N=49)**

Variables		N	%	Mean±SD	
Age	18-20	3	6.1	22.15±1.50	
	21-23	35	71.4		
	24-26	11	22.4		
Marital Status	Single	49	100.0		
	Educational level	SPM	17	34.7	
		Diploma	31	63.3	
Degree		1	2.0		
Time using WhatsApp's	2 hours	6	12.2		
	16 hours	26	53.1		
	18 hours	4	8.2		
	>18 hours	13	26.5		
Interest in nursing	Yes	35	71.4		
	No	14	28.6		

**Students' Perception toward using WhatsApp application in increased Academic achievement.**

Question 1 consists of the use of WhatsApp application to help students improve academic quality. Based on the data that has been analyzed a total of 25 (51%) of respondents agree, 14 (28.6%) of respondents strongly agree and 10 (20.4%) of respondents did not agree. Question 2 which questioned the respondent regarding the use of WhatsApp application allowing students to become more active and involved in learning. A total of 29 (59.2%) respondents agreed, 11 (22.4%) respondents strongly agree and 9 (18.4%) of the respondents did not agree. Question 3 consists of WhatsApp application as a help to make learning more effective. Results found 30 (61.2%) respondents choose to agree, 10 (20.4%) of respondents strongly agree, 8 (16.3%) of the selected respondents disagree

and 1 (2.0%) of respondents strongly disagree.

Question 4 was regarding the surety to learn to use WhatsApp application. Based on the data that has been analyzed a total of 23 (46.9%) of respondents agree, 16 (32.7%) of respondents disagree, 9 (18.4%) of respondents strongly agree 1 (2.0%) of respondents strongly disagree. Question 5 which questioned the respondent if learning using WhatsApp application was easier. A total of 23 (46.9%) of respondents agree, 13 (26.5%) of respondents disagree, 11 (22.4%) respondents strongly agree and 2 (4.1%) of respondents strongly disagree. Question 6 asked whether WhatsApp application was a new learning approach in Nursing curriculum. Findings of the study found that 35 (71.4%) respondents agree, 10 (20.4%) of respondents strongly agree and 4 (8.2%) of respondents did not agree.

Question 7 was whether WhatsApp application helped the students to find knowledge and related information to learning. Based on the data that has been analyzed a total of 30 (61.2%) respondents agree, 13 (26.5%) of respondents strongly agree and 6 (12.2%) respondents did not agree. Question 8 questioned the respondents regarding the use of WhatsApp application to encourage more students to communicate with

classmates. A survey found a total of 28 (57.1%) of respondents agree, 16 (32.7%) of respondents strongly agree, 4 (8.2%) of respondents disagree and 1 person (2.0%) chose to strongly disagree. Question 9 questioned the respondent regarding the use of WhatsApp application to enhance the confidence of the students to participate actively in class. A total of 27 (55.1%) respondents agree, 12 (24.5%) of respondents strongly agree and 10 (20.4%) of respondents disagree.

Questions 10 questioned the respondent whether the students are given more time to learn and comfortable with the use of WhatsApp application in teaching. Based on the data that has been analyzed a total of 27 (55.1%) respondents agree, 13 (26.5%) of respondents disagree and 9 (18.4%) respondents choose to strongly agree. Question 11 questioned the respondent whether they were satisfied using WhatsApp application in case of nursing programmer. The findings showed a total of 29 (59.2%) respondents agree, 13 (26.5%) respondents disagreed, and 7 (14.3%) of respondents strongly agree. Question 12 questioned the respondent whether in their opinion, WhatsApp application is important in improving quality in academic. A total of 32 (65.3%) of respondents agree, 8 (16.3%) of respondents strongly agree and 9 (18.4%) of the respondents did not agree.

**Table 2: Students' Perception toward using WhatsApp application in increased Academic achievement**

Sl. No	Questions	Likert scale			
		1(SD)	2(D)	3(A)	4(SA)
		N (%)	N (%)	N (%)	N (%)
1.	The use of WhatsApp application help students improves the quality of academic	-	10 (20.4)	25 (51.0)	14 (28.6)
2.	The use WhatsApp application allows students to become more active and involved in learning	-	9 (18.4)	29 (59.2)	11 (22.4)
3.	I am sure to make WhatsApp application as help make learning more effective	1 (2.0)	8 (16.3)	30 (61.2)	10 (20.4)
4	I am confident to learn to use WhatsApp application	1 (2.0)	16 (32.7)	23 (46.9)	9 (18.4)
5	I find learning by using WhatsApp application easier	2 (4.1)	13 (26.5)	23 (46.9)	11 (22.4)
6	WhatsApp application can be a teaching and learning approach is new in Nursing curriculum	-	4 (8.2)	35 (71.4)	10 (20.4)
7	The use of WhatsApp application help students to find knowledge and related information learning.	-	6 (12.2)	30 (61.2)	13 (26.5)
8	The use of the WhatsApp application encourages more students to communicate with classmates.	1 (2.0)	4 (8.2)	28 (57.1)	16 (32.7)
9	The use of WhatsApp application enhances the confidence of the students to participate actively in class	-	10 (20.4)	27 (55.1)	12 (24.5)
10	Students are given more time to learn and comfortable with the use of WhatsApp application in teaching	-	13 (26.5)	27 (55.1)	9 (18.4)
11	I am satisfied using WhatsApp application in the subject of nursing	-	13 (26.5)	29 (59.2)	7 (14.3)
12	In my opinion, WhatsApp application is important to improve academic performance	-	9 (18.4)	32 (65.3)	8 (16.3)

## DISCUSSION

### WhatsApp application helps students to improve the quality of academic

Majority of respondents agree that the smart phones can facilitate them to use WhatsApp application. The results showed that WhatsApp application usage is very easy. WhatsApp application affect the respondent in improving academic achievement in which the respondent can find information and interact with each other in "WhatsApp groups" and it can also help them in discussions in the learning process. This is important to improve the quality of academic achievement. Alhabbash (2012), reported that the use of WhatsApp as a teaching tool because it was the most common app used among the students. They did not need to have a computer, only the phone which is easily attainable and does not cost much. Due to the suitability to deliver the message, share lecture notes, share their views, to facilitate communication with lecturers and friends, to enable sharing and assignment related subjects as well as others. Students spent an average of 47 minutes a day on Facebook. More than 50% of college students go on a social networking site several times a day (Sheldon, 2008).

Based on study done by Ibrahim (2004), traditional methods are no longer the best way and provide students with a wide range of skills especially skills needed by the job sector. It is supported by Preston *et al.* (2010), where nearly 70% of the students stated that they learn equally well from online lectures as in-class lectures. Therefore, learning methods using the WhatsApp application have been introduced to produce creative and innovative students. Trevor (2013) reported that among all online tools, WhatsApp is considered as the easiest, most popular and effective tool that can be used by educators. This was further strengthened by the research conducted by Abd Ghoni, Othman & Abas (2017) where it is found that the best and effective delivery of information is WhatsApp, because this method is the fastest method of information that can be delivered to the users. It is hereby proven that WhatsApp is becoming the main choice for information sharing media owing to many active users reaching up to a billion.

However, according to the findings of the Awada (2016), 53.8% of respondents do not agree that the use of WhatsApp application in learning. It was reported by Sulaiman (2012), that most of the students are less interested in finding their own information or data because practice is more focused on teacher-based learning. Study done by Othman, Apandi & Ngah

(2017) reported that the academic performance test reveals that 55% of users with bachelor level agree that they will spend time with useless things when using social media such as chatting and playing games. The result also shows that 90% of them does not fully focus on class when they use social media.

### WhatsApp application is important to improve academic performance

In this study, result showed that the respondents agree with WhatsApp application usage to improve academic performance among nursing students. It is supported by Joicy & Ally Sornam (2018), where it was reported that 70% that is 62 people supported that WhatsApp application usage is important in the learning process. Awada (2016) reported that 70.4% agreed to use WhatsApp application to increase productivity in work writing and only 18.5% disagree. The study by Douch *et al.*, (2010), indicated that mobile technologies can improve professional development and teacher training in several areas such as: **i) Communication:** Mobile devices can be used in conjunction with wireless broadband and video-call services like Skype to facilitate communication between teachers and mentors. **ii) Self-assessment:** Video cameras can be used to record lessons, allowing teachers to reflect on their teaching practice and identify specific areas for improvement. **iii) Innovation:** Mobile technologies can be used in teacher education programs to challenge teachers to think creatively about mobile learning and develop the confidence to try new ideas.

Litchfield (2007), proved that students in institute of higher learning be positive with WhatsApp application usage. It recommends that more research will be done on the use of the application in assisting student academic achievement. Joicy & Ally Sornam (2018) in the study perception of WhatsApp usage among students of college, reported that 43.8% (39 respondents) agreed that their achievement would be better if they contact the instructor via WhatsApp application after learning and 45% (36 respondents) stated that WhatsApp application is not conducive to learning because it will result in the occurrence of technical problems. In addition, Williams, Birch, & Hancock (2012), reported that online lectures are more effective when combined with attending face-to-face lectures. Yu *et al.*, (2010) reported that online discussions between students through social learning communities networked through an artifact, such as mobile learning communities, clearly improved students' social connections, improved their self-esteem and boosted their learning performance.

However, Chavan (2018) found that WhatsApp application usage does not help in academics. Findings indicate that the use of the application shows 42(70%) of the respondents said the use of WhatsApp application has more negative impact, meanwhile only 18(30%) shows positive impact on their studies. It is because only a little time is allocated for academic purposes and most of the times is wasted on the WhatsApp chatting. Based on study done by Joicy & Ally Sornam (2018) it was reported that a majority of 32.5% and 30.0 % of the respondents disagreed and felt that WhatsApp learning is a waste of time. Wan Embong *et al.*, (2015) in his study stated that the WhatsApp app is the second highest medium used by students to bully other students after Facebook. In a study done by Afgani *et al.*, (2015) it was found that excessive use of WhatsApp will cause addiction which will give a negative impact to the user's lives. This is certainly a negative impact of WhatsApp.

## CONCLUSIONS

WhatsApp application is a strategy that can encourage students to be actively involved in the learning process. Therefore, this approach needs to be adopted by every nurse educator in their teaching to enable students to produce more quality and effective learning outcomes. Using WhatsApp application in learning should be taken up by the nurse educators as a mentor or facilitator in their learning process. Therefore, nurse educators also need to be more aware of their students' needs and use the facilities wisely to ensure that the teaching and learning process runs smoothly in line with the teaching and learning objectives. In addition, students are the main pillar of the realization of learning methods using the WhatsApp application. Through this method the nursing students will be more responsible

and diligent in mastering their lessons. This is because nursing students are able to solve problems without relying entirely on the teacher.

## RECOMMENDATIONS

Research on the use of WhatsApp application among nurse students should continue in the future by engaging other colleges and by involving more respondent research so that it becomes more relevant and can be used as a guide or reference. Researcher recommend that advanced study must be done by engaging larger studies to obtain results that is more accurate and comprehensive. A student will be motivated to learn more detailed information to enhance their knowledge. Additionally, students are free to learn in their own way without hindrance to practice. By practicing WhatsApp application learning method students can share information with other friends through group work. This will enable them to increase their knowledge and be more competitive.

In addition, the WhatsApp application method can also produce students who are active in the learning process. For example, students can enjoy learning and enjoy every process, whether in or out of the classroom. It also provides the students with training on how to apply WhatsApp application in learning. Nurse educator need to give students exposure to WhatsApp application such as holding workshops and WhatsApp application seminars. Nurse educator also need to give students awareness of the positive effects of using WhatsApp application teaching methods in their teaching process. Future research is necessary to compare the WhatsApp application teaching and traditional lectures to stipulate a more advanced method of learning.

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