ORIGINAL ARTICLE

Prospects and Challenges of Social media (WhatsApp) usage over University Learning Management System (LMS) as an E-learning tool among University students, Kingdom of Saudi Arabia (KSA)

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ABSTRACT

Background: Smart mobile phone usage has become gradually regular amidst students of the University. A great concern is how to equalize the benefits of social media usage and how to avoid its damaging consequences so that the advantage associated with it can be maximized in teaching and learning.
Aims To find out the perception, attitudes, and practices of WhatsApp usage (social media) in the teaching and learning activities of University students at University, KSA.
Settings and Design: It is a cross-sectional descriptive study; the study setting is Northern Borders University, Arar, KSA.
Methods: A cross-sectional survey was done among the university students to study the perception, attitudes, and practices of WhatsApp usage (social media) in teaching and learning. Data collection was done by administering the pre-validated self-structured questionnaire. The data were analyzed using IBM SPSS Version 22.0.
Results: Our study revealed that the most of the students stated that they think that they may have both good and bad experiences and that they think that they will be benefited from teaching and learning through WhatsApp.
Conclusion: Our results concluded that WhatsApp continues to be the most appreciated social media among university students in the Kingdom of Saudi Arabia. The findings of this study may be used to give recommendations to the authorities and medical educationists to incorporate usage of social media like WhatsApp as a learning tool in students teaching and learning activities.
Keywords: E-learning, smart mobile phone, Social media, Teaching and learning, WhatsApp usage, University students

INTRODUCTION

Smart mobile phone usage is becoming progressively popular among University students. University students can be encouraged to use their smart mobile phones as an essential teaching and learning tool. Currently, students display farther dependence on their smart mobile phones for both scholastic uses and societal activities. Due to the concern of damage which may be caused by a smart mobile phone when it is included in the teaching and learning activities, educationist is being gradually persuaded to learn more about the efficient use of social media like WhatsApp usage in the classroom and the unique ways to incorporate its different functions in teaching and learning. Educationists have an opinion that group discussions by using WhatsApp as a social media can be a replacement to teaching and learning methodology via small group discussions(SDL) or team-based learning(TBL), giving them a unique experience of learning a topic by working in virtual groups and teams. There has been found positive feedback about WhatsApp usage in the earlier study by students in the teaching methodology like problem-based learning. [1] It has been reflected in earlier studies that social media usage has helped students to understand their lessons proficiently than those who were subjected to learn only through conventional lecture hall surroundings[1]. Thus, understanding the ways social media like WhatsApp usage

can be integrated into teaching-learning activities can change the preferred learning styles of students. Therefore, the novel ways and innovative teaching activities incorporated through WhatsApp usage may make student learning more enjoyable and useful and different from the traditional methods. Hence the ways students had been gathering the knowledge on the topic to be learned via social media is important to be understood by educationists? One argument for educationists is how to equalize the advantage of social media uses in the scholastic activities keeping in consideration the damaging consequences of increased WhatsApp usage[2]. A study has shown that those learners who were asked not to use the mobile phone compared to those who were allowed to use the mobile phone throughout the classroom, the non-availability of smart mobile phone among student in the group lead to intensified anxiety and discomfort in them. This feeling is identified as situational anxiety and is called nomophobia[3]. In another study it had been reported that thoughts drifting can occur about 1/3rd of the time during lecture hall and also reported that the students misuse the social media by getting involved in different entrainment activities like listening to songs or watching videos while the lecture is going on which makes it hurdle to learning that takes place among students[4]. Due to continuing arguments on whether WhatsApp usage may prohibit or inculcate enthusiasm for learning the topic among students, the present study aims to understand the perception of

WhatsApp usage by students in their teaching and learning activities.

Objectives:

1. To study the perception, practices, and attitude of WhatsApp (social media) usage among University students.

2. To analyze student's preferences regarding WhatsApp usage over the learning management system (LMS) like Blackboard.

SUBJECTS AND METHODS

One hundred and fifty students undertaking different courses in various faculties of the University in Saudi Arabia were included in the study. A cross-sectional survey was done by giving a pre-validated self-structured questionnaire to the University students to study the perception, attitude, and practices of WhatsApp (social media) use in the scholastic activity. Data collection was done by administering a questionnaire specifically designed by stating all objectives of our study. WhatsApp Usage Questionnaire (MPUQ) was divided into two parts: Section A comprises of demographic details such as gender, age, and socio-economic status. While Section B comprises of statements relating to WhatsApp usage with a five-point evaluating scale, viz; Strongly agree, Agree, Neutral, Disagree, Strongly agree from which the participants were asked to select.

Statistics: The data were analyzed using IBM SPSS Version 22.0. The confidence level was put at 0.05 level of significance.

RESULTS

One hundred and fifty students participated in our study and the majority of them were students from the faculty of medicine. And the majority of the student's preferences for social media were WhatsApp. Table 1 shows a comparison of responses according to the year of course enrolment by students. Table 2 shows a comparison of responses according to the student studying in different Colleges. Summary of comments given by the student on the pros and cons and preferences for social media over LMS (Blackboard) by them is shown in Table 3.

In our study, there was found a significant relationship among differential variables like frequency of WhatsApp usage by the students in teaching-learning activities and time of WhatsApp usage by them. The majority were found to use WhatsApp at any time, and from anywhere they go, they had been using it frequently for text messaging, and for sharing videos and images. Our study showed that most of the students had both good and bad experiences when they tried to use WhatApp for teaching and learning activities but a majority of them were satisfied with teaching and learning through WhatsApp and they felt comfortable and secured since learning material was available to them all the time. However, the negative messages shared by fellow students on the WhatsApp created negative assumptions, and students felt that they wasted their time on WhatsApp which adversely affected their academic performance.

DISCUSSIONS

Smart mobile phones have developed into a necessity of our present-day life. Accessing the Internet to share information through applications available on smart mobile phones is increasingly becoming popular every day. [5] WhatsApp is used as widely used instantaneous messaging applications in 1 billion or more users and more than a hundred eighty countries.[6-7] WhatsApp allows users to exchange the messages in the form of texts, audios or videos, for and can do group chatting for free at any time and from all parts of the world. [8] Studies have shown that the incorporation of WhatsApp is being done for academic purposes and societal benefits. According to our results analyzed, the majority of the students stated that their participation in WhatsApp based teaching and learning activities had increased their motivation drastically. They also felt a constructive impact on their learning, communication, and team-based working skills, which had ensued more consistency and certainty and confidence in them.

The common need for students or faculty for any teaching and learning activity is 1.To be able to share resources.2.To receive or give feedback about teaching and learning activity. Many faculties and learners benefit from using social media to promote teaching and learning activities. Social media like WhatsApp, Twitter, Instagram, etc are utilized by learners irrespective of University recommendations. University-supported learning management systems like LMS are not deemed a preferred choice as it did not offer a platform for comfortable team work.

From our assessment, we analyzed that the distinctive platforms like social media and LMS (Blackboard) offer harmonizing attributes beneficial to learner teaching- learning activities .What's App was convenient for sharing instantaneous sources, while the Blackboard had attributes that were more beneficial for retaining accounts of assignments, presentations, and lectures, etc and organizes a wide variety of information. Students felt a need for a instrument to expedite easy learning elsewhere of the lecture room, and WhatsApp was utilized for this reason by a good number of students as they wanted to adopt a way of learning that is more user friendly. With the preference of social media instruments over LMS, we intended to evaluate learner's attitude to social media in scholastic activities. It may become more useful if faculty can supervise and approve posts or better learning, as has been done in other studies[8].

In our study, the majority of the students also consented that gathering information through WhatsApp was very appealing and propounded them scholastic advantages and that they could gather information more collectively. In our study, it was also reflected that students had satisfactory viewpoints toward WhatsApp as an educational tool and wish to recommend to their juniors about its benefits and advantages. A study piloted in Saudi Arabia pointed that WhatsApp was the topmost application and was preferred among other social media-based applications as scholastic activities for students. WhatsApp is not only an application but also a powerful communication medium. Currently, WhatsApp is being

used frequently by the University students for sharing information and students feel it to be user friendly as they can send messages regarding teaching and learning schedules, queries, problems and solutions to the peers and faculty and can get quick administrative updates by faculties and administration and authorities[9].

WhatsApp usage is found to be useful by students as they found that their increased interaction with peers and faculty constructively affected their combined learning. The present study also reflected about the student views that the teaching and learning via WhatsApp usage may have a beneficial effect on the accomplishment of their goals in career and helps in achieving good scores in assessments and may help in their life-long learning making them high achievers in their profession. Studies have shown that University Students prefer novel smartphone mobile-based teaching and learning over traditional teaching methodology[10].

However in our study one of the concerns of students was that the WhatsApp consumed much of their time, causing adverse impact on students" study time. And they stated that it also diverted their mind during lectures as they get distracted to view entertainment channels or had been replying to text messages being received from family and friends and were viewing unnecessary audio clips, videos, and entertainment messages being online on WhatsApp to participate in teaching and learning activities.

Therefore there are different views regarding the inclusion of social media like WhatsApp in teaching and learning activities, as it can have negative consequences linked to its usage during the teaching and learning activities.

It also has a positive influence on student teaching and learning activities, therefore earlier studies have encouraged its usage to educationists as there are many scholarly benefits like availability of teaching and learning materials at any point in time, there is no time restriction of "faculty" availability and it gives the students an advantage of learning outside class hours[11]. It has also reported in studies done earlier that social media usage like Whatsapp is rising more quickly among students as compared to the other social media like Facebook, Twitter, snap chat etc[12]. Researches have shown that some of the students harbor anxiety about social media usage in teaching methodology, one of it is that they are forced to do course work after University timings which takes away their leisure time and is affecting their private life. [9] Few students living in joint families preferred the traditional classroom learning more as they found teaching via WhatsApp disturbing to them due to space constraints and distraction by other family members around them[12-13].

From the outcomes of the current study, it is highlighted that inspite of few disadvantages the advantages of using WhatsApp in students scholastic teaching activities are much higher. Therefore we recommend that social media like WhatsApp applications can be utilized as educational tools for sharing broadcasts, sharing resource material, and instigating online discussions. Use of WhatsApp instant messaging can help students in learning the concepts faster and serve as a beneficial environment for students to expand their knowledge. [14] Many researchers have proved that the use of WhatsApp messenger had a constructive influence on teaching and learning in Universities. [14] Another important benefit of including WhatApp in teaching and learning activities is that such activities can be made student-centered and curriculum objectives can be achieved successfully. Studies have shown that the role of the faculty is also important for facilitating the participation of students in group activities especially conducting problem-based or team-based or case-based learning using social media like WhatsApp[14-15]. Students agreed uniformly that easy approach to faculty, availability of resource material all the time, and in all modes like text, audio, and video messages, helped them in better understanding of topic due to user-friendly environment which is consistent with findings seen in our study also.

The results of our study showed that student's preference for social media over LMS has raised the concern of digital knowledge and sufficient guidance to learners about LMS. Digital knowledge is a distinctive notion and covers technical skills needed to handle and work on a computer, skills needed to utilize and circumnavigate the software and the internet, skills necessary to locate, select, and organize information on LMS, and skills needed to effectively control blackboard communications. [12] Our study highlights the fact that the lesser number of learners were completely confident in handling well the use of Blackboard. A greater emphasis on the use of LMS (Blackboard), mainly in the preliminary learning period would possibly have better usage of it in scholastic activities.

A great benefit of the use of Social media in teaching activities for students is that it promotes learning based on team-based concepts in an online space, which affirms the socialistic ideologies of TBL(Team-based or Small) or Self-directed learning (SDL).

The use of social media by the students for their learning may help in awareness of the strength and weakness of its utility by the students and may enable concerned authorities and teachers to recognize the additional sources that may be essential to be acquired to make University learning management system (LMS; Blackboard) also to have same benefits as highlighted by students in using Social media and their preferences for them over the LMS. This may help to widen student prospects by inspiring them to appreciate the importance of E-learning in the scholastic activities. However, via including the use of WhatApp for regular use in scholastic activities there remains a concern that learner may use up copyright or fake or incorrect online sources or notes or reading material , rather than peer-reviewed resources posted by faculty on Blackboard for their teaching, a concern also reflected in the earlier studies [16, 17].Students taking professional courses use a diversity of social networking websites for scholastics endeavors [18,] therefore the use of social media in professional courses is becoming more and more pervasive as an E-learning tool. We, hence, consider that including social media tools as an E-learning source into the medical curriculum might impart a beneficial tactic to employ learners and encourage academic online endeavors .

CONCLUSION

This study was done to analyze the perception, practices, and attitude of WhatsApp(social media) usage among UNIVERSITY students. Our results concluded that WhatsApp continues to be the most appreciated social media among UNIVERSITY students in Kingdom of Saudi Arabia and a majority of University students recommended that they wish to learn through WhatsApp as they feel it will be constructively useful in making them better learners and help them to achieve higher grades in assessments. The findings of this study may be used to give recommendations to the authorities, curriculum committee members and medical educationists to incorporate usage of social media like WhatsApp as communication and learning tool in students teaching and learning activities that may promote and encourage students to acquire life-long learning, communication, and team-based learning skills.

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Table 1:- Responses of the students according to the year of enrollment in the course

		Year of course enrollment by students					Total	Fisher's Exact Test
		2nd year	3rd year	4th year	5th year	6th year		p-value
1. Which one of the following is your preferred Social Networking site?	**Blackboard**	14	13	3	3	2	35	0.008*
		22.2%	22.4%	21.4%	37.5%	28.6%	23.3%	
	Instgram	16	7	2	3	1	29	
		25.4%	12.1%	14.3%	37.5%	14.3%	19.3%	
	Twitter	18	7	5	2	0	32	
		28.6%	12.1%	35.7%	25.0%	0.0%	21.3%	
	Whats app	15	31	4	0	4	54	
		23.8%	53.4%	28.6%	0.0%	57.1%	36.0%	
2. Do social media have an impact on your teaching and learning?	**Agree**	36	24	11	2	5	78	0.02*
		57.1%	41.4%	78.6%	25.0%	71.4%	52.0%	
	Disagree	5	1	0	0	0	6	
		7.9%	1.7%	0.0%	0.0%	0.0%	4.0%	
	Neutral	2	1	1	2	0	6	
		3.2%	1.7%	7.1%	25.0%	0.0%	4.0%	

Question	Response							p-value
	Strongly agree	20	26	2	4	2	54	
		31.7%	44.8%	14.3%	50.0%	28.6%	36.0%	
	Strongly disagree	0	6	0	0	0	6	
		0.0%	10.3%	0.0%	0.0%	0.0%	4.0%	
3. Do you use social media like what's app in your courses for teaching and learning?	**Agree**	29	23	9	6	5	72	<0.001*
		46.0%	39.7%	64.3%	75.0%	71.4%	48.0%	
	Disagree	14	3	4	1	0	22	
		22.2%	5.2%	28.6%	12.5%	0.0%	14.7%	
	Neutral	1	12	0	1	0	14	
		1.6%	20.7%	0.0%	12.5%	0.0%	9.3%	
	Strongly agree	19	18	1	0	2	40	
		30.2%	31.0%	7.1%	0.0%	28.6%	26.7%	
	Strongly Disagree	0	2	0	0	0	2	
		0.0%	3.4%	0.0%	0.0%	0.0%	1.3%	
4. Do you access the social media sites daily from a smart phone/computer/I-pad?	**Agree**	8	7	6	1	0	22	0.02*
		12.7%	12.1%	42.9%	12.5%	0.0%	14.7%	
	Disagree	0	0	0	1	0	1	
		0.0%	0.0%	0.0%	12.5%	0.0%	0.7%	
	Strongly agree	55	51	8	6	7	127	
		87.3%	87.9%	57.1%	75.0%	100.0%	84.7%	
5. Do you think to join what's app groups have a positive impact on your learning?	**Agree**	21	10	2	1	2	36	<0.001*
		33.3%	17.2%	14.3%	12.5%	28.6%	24.0%	
	Disagree	4	0	0	0	0	4	
		6.3%	0.0%	0.0%	0.0%	0.0%	2.7%	
	Neutral	13	6	6	5	0	30	
		20.6%	10.3%	42.9%	62.5%	0.0%	20.0%	
	Strongly agree	25	30	6	2	5	68	
		39.7%	51.7%	42.9%	25.0%	71.4%	45.3%	
	Strongly Disagree	0	12	0	0	0	12	
		0.0%	20.7%	0.0%	0.0%	0.0%	8.0%	
6. Do you think learning through what's app groups encourage success in understanding topics to study?	**Agree**	37	9	7	2	3	58	<0.001*
		58.7%	15.5%	50.0%	25.0%	42.9%	38.7%	
	Disagree	0	1	0	0	0	1	
		0.0%	1.7%	0.0%	0.0%	0.0%	0.7%	
	Neutral	13	7	4	3	0	27	
		20.6%	12.1%	28.6%	37.5%	0.0%	18.0%	
	Strongly agree	12	29	3	2	4	50	
		19.0%	50.0%	21.4%	25.0%	57.1%	33.3%	
	Strongly Disagree	1	12	0	1	0	14	
		1.6%	20.7%	0.0%	12.5%	0.0%	9.3%	
7. Do you think learning through what's app groups facilitate emotional support?	**Agree**	25	7	6	2	5	45	<0.001*
		39.7%	12.1%	42.9%	25.0%	71.4%	30.0%	
	Disagree	21	12	4	0	2	39	
		33.3%	20.7%	28.6%	0.0%	28.6%	26.0%	
	Neutral	8	19	1	4	0	32	
		12.7%	32.8%	7.1%	50.0%	0.0%	21.3%	
	Strongly agree	7	8	3	0	0	18	
		11.1%	13.8%	21.4%	0.0%	0.0%	12.0%	
	Strongly Disagree	2	12	0	2	0	16	
		3.2%	20.7%	0.0%	25.0%	0.0%	10.7%	
8. Do you think social networking sites like what's app help to build/strengthen interpersonal relationships?	**Agree**	24	20	4	4	1	53	0.02*
		38.1%	34.5%	28.6%	50.0%	14.3%	35.3%	
	Disagree	0	2	0	1	0	3	
		0.0%	3.4%	0.0%	12.5%	0.0%	2.0%	
	Neutral	19	7	3	1	0	30	
		30.2%	12.1%	21.4%	12.5%	0.0%	20.0%	
	Strongly agree	19	29	7	1	6	62	
		30.2%	50.0%	50.0%	12.5%	85.7%	41.3%	
	Strongly Disagree	1	0	0	1	0	2	
		1.6%	0.0%	0.0%	12.5%	0.0%	1.3%	
9. Do you think learning together using what's app helps you achieve higher grades?	**Agree**	29	18	8	6	3	64	0.01*
		46.0%	31.0%	57.1%	75.0%	42.9%	42.7%	
	Disagree	10	3	1	0	0	14	
		15.9%	5.2%	7.1%	0.0%	0.0%	9.3%	
	Neutral	6	10	3	2	0	21	
		9.5%	17.2%	21.4%	25.0%	0.0%	14.0%	

	Strongly agree	13	24	2	0	4	43	
		20.6%	41.4%	14.3%	0.0%	57.1%	28.7%	
	Strongly disagree	5	3	0	0	0	8	
		7.9%	5.2%	0.0%	0.0%	0.0%	5.3%	
10. Do you think including what's app into your coursework increases your motivation?	**Agree**	24	16	3	2	2	47	
		38.1%	27.6%	21.4%	25.0%	28.6%	31.3%	
	Disagree	11	3	1	0	0	15	
		17.5%	5.2%	7.1%	0.0%	0.0%	10.0%	
	Neutral	4	16	8	5	1	34	0.004*
		6.3%	27.6%	57.1%	62.5%	14.3%	22.7%	
	Strongly agree	22	20	2	1	4	49	
		34.9%	34.5%	14.3%	12.5%	57.1%	32.7%	
	Strongly disagree	2	3	0	0	0	5	
		3.2%	5.2%	0.0%	0.0%	0.0%	3.3%	
11. Do you think that what's app usage creates highly constructivist learning activities?	**Agree**	19	20	5	2	4	50	
		30.2%	34.5%	35.7%	25.0%	57.1%	33.3%	
	Disagree	9	2	3	1	0	15	
		14.3%	3.4%	21.4%	12.5%	0.0%	10.0%	
	Neutral	6	10	3	3	0	22	0.38(NS)
		9.5%	17.2%	21.4%	37.5%	0.0%	14.7%	
	Strongly agree	26	22	3	2	3	56	
		41.3%	37.9%	21.4%	25.0%	42.9%	37.3%	
	Strongly disagree	3	4	0	0	0	7	
		4.8%	6.9%	0.0%	0.0%	0.0%	4.7%	
12. Do you think that what's app usage provides you to the platform to lead online discussions?	**Agree**	23	20	5	4	5	57	
		36.5%	34.5%	35.7%	50.0%	71.4%	38.0%	
	Disagree	2	2	0	0	0	4	
		3.2%	3.4%	0.0%	0.0%	0.0%	2.7%	
	Neutral	16	7	2	0	0	25	0.50(NS)
		25.4%	12.1%	14.3%	0.0%	0.0%	16.7%	
	Strongly agree	21	23	7	4	2	57	
		33.3%	39.7%	50.0%	50.0%	28.6%	38.0%	
	Strongly Disagree	1	6	0	0	0	7	
		1.6%	10.3%	0.0%	0.0%	0.0%	4.7%	
13. Do you think that what's app usage can be a powerful tool to enhance communication with your teachers?	**Agree**	32	19	8	3	3	65	
		50.8%	32.8%	57.1%	37.5%	42.9%	43.3%	
	Disagree	3	4	0	0	0	7	
		4.8%	6.9%	0.0%	0.0%	0.0%	4.7%	
	Neutral	5	8	3	1	0	17	0.43(NS)
		7.9%	13.8%	21.4%	12.5%	0.0%	11.3%	
	Strongly agree	22	20	3	4	4	53	
		34.9%	34.5%	21.4%	50.0%	57.1%	35.3%	
	Strongly Disagree	1	7	0	0	0	8	
		1.6%	12.1%	0.0%	0.0%	0.0%	5.3%	
14. Do you like to do contribution on what's an app like sharing links to related topics, new events, or matters of interest related to course work?	**Agree**	35	18	5	5	5	68	
		55.6%	31.0%	35.7%	62.5%	71.4%	45.3%	
	Disagree	4	6	1	0	0	11	
		6.3%	10.3%	7.1%	0.0%	0.0%	7.3%	
	Neutral	9	8	4	0	0	21	0.31(NS)
		14.3%	13.8%	28.6%	0.0%	0.0%	14.0%	
	Strongly agree	15	24	4	3	2	48	
		23.8%	41.4%	28.6%	37.5%	28.6%	32.0%	
	Strongly Disagree	0	2	0	0	0	2	
		0.0%	3.4%	0.0%	0.0%	0.0%	1.3%	
15. How many hours do you think is possible to spend per week on what's app for learning the topic?	**1-2 hours per week of online activity,**	28	24	3	1	2	58	
		44.4%	41.4%	21.4%	12.5%	28.6%	38.7%	
	16-28 hours per week online activity,	2	1	0	1	0	4	
		3.2%	1.7%	0.0%	12.5%	0.0%	2.7%	
	29-40 hours per week online activity	5	6	2	0	2	15	0.38(NS)
		7.9%	10.3%	14.3%	0.0%	28.6%	10.0%	
	3-8 hours per week online activity,	12	9	2	4	1	28	
		19.0%	15.5%	14.3%	50.0%	14.3%	18.7%	
	9-15 hours per	15	17	7	2	2	43	

								p-value
	week online activity,	23.8%	29.3%	50.0%	25.0%	28.6%	28.7%	
	More than 35 hours per week of online activity consistently.	1	1	0	0	0	2	
		1.6%	1.7%	0.0%	0.0%	0.0%	1.3%	
16. The e-learning process used in the educational media course through WhatsApp learning activities favors problem-solving	Agree	26	20	2	2	2	52	0.08(NS)
		41.3%	34.5%	14.3%	25.0%	28.6%	34.7%	
	Disagree	1	2	0	2	0	5	
		1.6%	3.4%	0.0%	25.0%	0.0%	3.3%	
	Neutral	17	9	6	1	3	36	
		27.0%	15.5%	42.9%	12.5%	42.9%	24.0%	
	Strongly agree	8	7	0	1	0	16	
		12.7%	12.1%	0.0%	12.5%	0.0%	10.7%	
	Strongly disagree	11	20	6	2	2	41	
		17.5%	34.5%	42.9%	25.0%	28.6%	27.3%	
17. The e-learning process used in the educational media course through WhatsApp learning activities clarifies the learning resources	Agree	38	18	8	3	3	70	0.03*
		60.3%	31.0%	57.1%	37.5%	42.9%	46.7%	
	Disagree	5	6	0	1	0	12	
		7.9%	10.3%	0.0%	12.5%	0.0%	8.0%	
	Neutral	8	12	1	2	0	23	
		12.7%	20.7%	7.1%	25.0%	0.0%	15.3%	
	Strongly agree	11	13	3	2	4	33	
		17.5%	22.4%	21.4%	25.0%	57.1%	22.0%	
	Strongly disagree	1	9	2	0	0	12	
		1.6%	15.5%	14.3%	0.0%	0.0%	8.0%	
18. The e-learning process used in the educational media course through WhatsApp learning activities favors foster knowledge sharing.	Agree	32	20	5	2	0	59	0.07(NS)
		50.8%	34.5%	35.7%	25.0%	0.0%	39.3%	
	Disagree	1	0	0	1	2	4	
		1.6%	0.0%	0.0%	12.5%	28.6%	2.7%	
	Neutral	11	14	3	3	2	33	
		17.5%	24.1%	21.4%	37.5%	28.6%	22.0%	
	Strongly agree	8	11	2	1	1	23	
		12.7%	19.0%	14.3%	12.5%	14.3%	15.3%	
	Strongly disagree	11	13	4	1	2	31	
		17.5%	22.4%	28.6%	12.5%	28.6%	20.7%	
19. What's app is not an appropriate environment for learning	Agree	18	13	0	2	2	35	0.18(NS)
		28.6%	22.4%	0.0%	25.0%	28.6%	23.3%	
	Disagree	16	23	6	4	5	54	
		25.4%	39.7%	42.9%	50.0%	71.4%	36.0%	
	Neutral	12	9	6	2	0	29	
		19.0%	15.5%	42.9%	25.0%	0.0%	19.3%	
	Strongly agree	14	9	2	0	0	25	
		22.2%	15.5%	14.3%	0.0%	0.0%	16.7%	
	Strongly disagree	3	4	0	0	0	7	
		4.8%	6.9%	0.0%	0.0%	0.0%	4.7%	
20. There are no specific benefits that make what's app a better forum for class discussions and announcements over a learning management system like Blackboard.	Agree	11	16	3	2	2	34	0.06(NS)
		17.5%	27.6%	21.4%	25.0%	28.6%	22.7%	
	Disagree	21	11	5	5	1	43	
		33.3%	19.0%	35.7%	62.5%	14.3%	28.7%	
	Neutral	16	10	1	1	3	31	
		25.4%	17.2%	7.1%	12.5%	42.9%	20.7%	
	Strongly agree	15	20	3	0	1	39	
		23.8%	34.5%	21.4%	0.0%	14.3%	26.0%	
	Strongly Disagree	0	1	2	0	0	3	
		0.0%	1.7%	14.3%	0.0%	0.0%	2.0%	

*p<0.05 Statistically Significant,   p>0.05 Non Significant, N

Table 2:- Comparison of responses according to the student studying in different Colleges.

		Student studying in different colleges/faculty				Total	Fisher's Exact Test
		College of Applied Science	College of Medicine	College of Nursing	College of Nutrition		p-value
1. Which one of the following is your	Blackboard	10	17	5	3	35	0.20(NS)
		27.8%	22.1%	25.0%	17.6%	23.3%	

preferred Social Networking site?	**Instgram**	7	18	3	1	29	
		19.4%	23.4%	15.0%	5.9%	19.3%	
	Twitter	12	14	2	4	32	
		33.3%	18.2%	10.0%	23.5%	21.3%	
	Whats app	7	28	10	9	54	
		19.4%	36.4%	50.0%	52.9%	36.0%	
2. Do social media have an impact on your teaching and learning?	**Agree**	19	36	13	10	78	0.45(NS)
		52.8%	46.8%	65.0%	58.8%	52.0%	
	Disagree	4	1	1	0	6	
		11.1%	1.3%	5.0%	0.0%	4.0%	
	Neutral	1	4	1	0	6	
		2.8%	5.2%	5.0%	0.0%	4.0%	
	Strongly agree	10	32	5	7	54	
		27.8%	41.6%	25.0%	41.2%	36.0%	
	Strongly disagree	2	4	0	0	6	
		5.6%	5.2%	0.0%	0.0%	4.0%	
3. Do you use social media like what's app in your courses for teaching and learning? ۵	**Agree**	14	41	8	9	72	0.66(NS)
		38.9%	53.2%	40.0%	52.9%	48.0%	
	Disagree	4	10	4	4	22	
		11.1%	13.0%	20.0%	23.5%	14.7%	
	Neutral	4	6	2	2	14	
		11.1%	7.8%	10.0%	11.8%	9.3%	
	Strongly agree	14	18	6	2	40	
		38.9%	23.4%	30.0%	11.8%	26.7%	
	Strongly Disagree	0	2	0	0	2	
		0.0%	2.6%	0.0%	0.0%	1.3%	
4. Do you access the social media sites daily from a smart phone/computer/I-pad?	**Agree**	7	12	3	0	22	0.47(NS)
		19.4%	15.6%	15.0%	0.0%	14.7%	
	Disagree	0	1	0	0	1	
		0.0%	1.3%	0.0%	0.0%	0.7%	
	Strongly agree	29	64	17	17	127	
		80.6%	83.1%	85.0%	100.0%	84.7%	
5. Do you think joining what's app groups have a positive impact in your learning?	**Agree**	11	15	7	3	36	0.42(NS)
		30.6%	19.5%	35.0%	17.6%	24.0%	
	Disagree	2	1	1	0	4	
		5.6%	1.3%	5.0%	0.0%	2.7%	
	Neutral	6	20	2	2	30	
		16.7%	26.0%	10.0%	11.8%	20.0%	
	Strongly agree	15	36	7	10	68	
		41.7%	46.8%	35.0%	58.8%	45.3%	
	Strongly Disagree	2	5	3	2	12	
		5.6%	6.5%	15.0%	11.8%	8.0%	
6. Do you think learning through what's app groups encourage success in understanding topics to study?	**Agree**	14	27	7	10	58	0.66(NS)
		38.9%	35.1%	35.0%	58.8%	38.7%	
	Disagree	1	0	0	0	1	
		2.8%	0.0%	0.0%	0.0%	0.7%	
	Neutral	8	14	4	1	27	
		22.2%	18.2%	20.0%	5.9%	18.0%	
	Strongly agree	11	29	6	4	50	
		30.6%	37.7%	30.0%	23.5%	33.3%	
	Strongly Disagree	2	7	3	2	14	
		5.6%	9.1%	15.0%	11.8%	9.3%	
7. Do you think learning through what's app groups facilitate emotional support?	**Agree**	13	20	6	6	45	0.54(NS)
		36.1%	26.0%	30.0%	35.3%	30.0%	
	Disagree	7	19	7	6	39	
		19.4%	24.7%	35.0%	35.3%	26.0%	
	Neutral	9	16	4	3	32	
		25.0%	20.8%	20.0%	17.6%	21.3%	
	Strongly agree	4	14	0	0	18	
		11.1%	18.2%	0.0%	0.0%	12.0%	
	Strongly Disagree	3	8	3	2	16	
		8.3%	10.4%	15.0%	11.8%	10.7%	
8. Do you think social networking sites like what's app help to build/strengthen	**Agree**	12	25	6	10	53	0.65(NS)
		33.3%	32.5%	30.0%	58.8%	35.3%	
	Disagree	2	1	0	0	3	
		5.6%	1.3%	0.0%	0.0%	2.0%	

interpersonal relationships?	**Neutral**	7	17	3	3	30	
		19.4%	22.1%	15.0%	17.6%	20.0%	
	Strongly agree	14	33	11	4	62	
		38.9%	42.9%	55.0%	23.5%	41.3%	
	Strongly Disagree	1	1	0	0	2	
		2.8%	1.3%	0.0%	0.0%	1.3%	
9. Do you think learning together using what's app helps you achieve higher grades ?	**Agree**	16	32	10	6	64	0.44(NS)
		44.4%	41.6%	50.0%	35.3%	42.7%	
	Disagree	3	6	1	4	14	
		8.3%	7.8%	5.0%	23.5%	9.3%	
	Neutral	7	11	2	1	21	
		19.4%	14.3%	10.0%	5.9%	14.0%	
	Strongly agree	8	26	4	5	43	
		22.2%	33.8%	20.0%	29.4%	28.7%	
	Strongly disagree	2	2	3	1	8	
		5.6%	2.6%	15.0%	5.9%	5.3%	
10. Do you think including what's app into your coursework increases your motivation?	**Agree**	16	22	6	3	47	0.01*
		44.4%	28.6%	30.0%	17.6%	31.3%	
	Disagree	5	5	1	4	15	
		13.9%	6.5%	5.0%	23.5%	10.0%	
	Neutral	5	26	3	0	34	
		13.9%	33.8%	15.0%	0.0%	22.7%	
	Strongly agree	9	23	8	9	49	
		25.0%	29.9%	40.0%	52.9%	32.7%	
	Strongly disagree	1	1	2	1	5	
		2.8%	1.3%	10.0%	5.9%	3.3%	
11. Do you think that what's app usage creates highly constructivist learning activities? ◊	**Agree**	12	31	5	2	50	0.34(NS)
		33.3%	40.3%	25.0%	11.8%	33.3%	
	Disagree	3	9	1	2	15	
		8.3%	11.7%	5.0%	11.8%	10.0%	
	Neutral	6	9	3	4	22	
		16.7%	11.7%	15.0%	23.5%	14.7%	
	Strongly agree	12	27	9	8	56	
		33.3%	35.1%	45.0%	47.1%	37.3%	
	Strongly disagree	3	1	2	1	7	
		8.3%	1.3%	10.0%	5.9%	4.7%	
12. Do you think that what's app usage provides you to a platform to lead online discussions?	**Agree**	10	32	7	8	57	0.41(NS)
		27.8%	41.6%	35.0%	47.1%	38.0%	
	Disagree	2	1	1	0	4	
		5.6%	1.3%	5.0%	0.0%	2.7%	
	Neutral	10	8	3	4	25	
		27.8%	10.4%	15.0%	23.5%	16.7%	
	Strongly agree	13	32	8	4	57	
		36.1%	41.6%	40.0%	23.5%	38.0%	
	Strongly Disagree	1	4	1	1	7	
		2.8%	5.2%	5.0%	5.9%	4.7%	
13. Do you think that what's app usage can be a powerful tool to enhance communication with your teachers?	**Agree**	15	34	9	7	65	0.81(NS)
		41.7%	44.2%	45.0%	41.2%	43.3%	
	Disagree	2	2	0	3	7	
		5.6%	2.6%	0.0%	17.6%	4.7%	
	Neutral	4	9	2	2	17	
		11.1%	11.7%	10.0%	11.8%	11.3%	
	Strongly agree	14	27	8	4	53	
		38.9%	35.1%	40.0%	23.5%	35.3%	
	Strongly Disagree	1	5	1	1	8	
		2.8%	6.5%	5.0%	5.9%	5.3%	
14. Do you like to do contribution on what's app like sharing links to related topics, new events, or matters of interest related to course work?	**Agree**	15	37	8	8	68	0.09(NS)
		41.7%	48.1%	40.0%	47.1%	45.3%	
	Disagree	4	2	4	1	11	
		11.1%	2.6%	20.0%	5.9%	7.3%	
	Neutral	8	10	0	3	21	
		22.2%	13.0%	0.0%	17.6%	14.0%	
	Strongly agree	9	27	8	4	48	
		25.0%	35.1%	40.0%	23.5%	32.0%	
	Strongly Disagree	0	1	0	1	2	
		0.0%	1.3%	0.0%	5.9%	1.3%	

15. How many hours do you think is possible to spend per week on what's app for learning the topic?	1-2 hours per week of online activity,	13	24	12	9	58	0.08(NS)
		36.1%	31.2%	60.0%	52.9%	38.7%	
	16-28 hours per week online activity,	3	1	0	0	4	
		8.3%	1.3%	0.0%	0.0%	2.7%	
	29-40 hours per week online activity	2	11	1	1	15	
		5.6%	14.3%	5.0%	5.9%	10.0%	
	3-8 hours per week online activity,	8	17	1	2	28	
		22.2%	22.1%	5.0%	11.8%	18.7%	
	9-15 hours per week online activity,	8	24	6	5	43	
		22.2%	31.2%	30.0%	29.4%	28.7%	
	More than 35 hours per week of online activity consistently.	2	0	0	0	2	
		5.6%	0.0%	0.0%	0.0%	1.3%	
16. The e-learning process used in the educational media course through WhatsApp learning activities favors problem-solving	Agree	15	19	8	10	52	0.19(NS)
		41.7%	24.7%	40.0%	58.8%	34.7%	
	Disagree	2	2	1	0	5	
		5.6%	2.6%	5.0%	0.0%	3.3%	
	Neutral	10	22	2	2	36	
		27.8%	28.6%	10.0%	11.8%	24.0%	
	Strongly agree	2	9	2	3	16	
		5.6%	11.7%	10.0%	17.6%	10.7%	
	Strongly disagree	7	25	7	2	41	
		19.4%	32.5%	35.0%	11.8%	27.3%	
17. The e-learning process used in the educational media course through WhatsApp learning activities clarifies the learning resources	Agree	17	33	10	10	70	0.72(NS)
		47.2%	42.9%	50.0%	58.8%	46.7%	
	Disagree	3	6	1	2	12	
		8.3%	7.8%	5.0%	11.8%	8.0%	
	Neutral	5	13	2	3	23	
		13.9%	16.9%	10.0%	17.6%	15.3%	
	Strongly agree	9	20	3	1	33	
		25.0%	26.0%	15.0%	5.9%	22.0%	
	Strongly disagree	2	5	4	1	12	
		5.6%	6.5%	20.0%	5.9%	8.0%	
18. The e-learning process used in the educational media course through WhatsApp learning activities favors foster knowledge sharing.	Agree	13	26	7	13	59	0.27(NS)
		36.1%	33.8%	35.0%	76.5%	39.3%	
	Disagree	1	3	0	0	4	
		2.8%	3.9%	0.0%	0.0%	2.7%	
	Neutral	9	17	5	2	33	
		25.0%	22.1%	25.0%	11.8%	22.0%	
	Strongly agree	7	10	5	1	23	
		19.4%	13.0%	25.0%	5.9%	15.3%	
	Strongly disagree	6	21	3	1	31	
		16.7%	27.3%	15.0%	5.9%	20.7%	
19. What's app is not an appropriate environment for learning	Agree	9	17	3	6	35	0.04*
		25.0%	22.1%	15.0%	35.3%	23.3%	
	Disagree	9	30	8	7	54	
		25.0%	39.0%	40.0%	41.2%	36.0%	
	Neutral	6	18	3	2	29	
		16.7%	23.4%	15.0%	11.8%	19.3%	
	Strongly agree	6	11	6	2	25	
		16.7%	14.3%	30.0%	11.8%	16.7%	
	Strongly disagree	6	1	0	0	7	
		16.7%	1.3%	0.0%	0.0%	4.7%	
20. There are no specific benefits that make what's app a better forum for class	Agree	5	19	3	7	34	0.58(NS)
		13.9%	24.7%	15.0%	41.2%	22.7%	
	Disagree	12	20	6	5	43	
		33.3%	26.0%	30.0%	29.4%	28.7%	

discussions and announcements over a learning management system like Blackboard.	Neutral	10	15	3	3	31	
		27.8%	19.5%	15.0%	17.6%	20.7%	
	Strongly agree	9	20	8	2	39	
		25.0%	26.0%	40.0%	11.8%	26.0%	
	Strongly Disagree	0	3	0	0	3	
		0.0%	3.9%	0.0%	0.0%	2.0%	

*$p<0.05$ Statistically Significant,　　　　　$p>0.05$ Non Significant, NS

Table 3: Analysis of student comments on social media available options and LMS (Blackboard)

Type of platform	Different Social media's and LMS	Advantages	Disadvantages
Learning management system(LMS)	Blackboard	-University maintained -Mandatory to be utilised by all learners -Another resource material is instantly and immediately accessible -Resources are all in one place	-Faculty centered -Limited ability for students to share resources or teaching-learning related material -discussion forums infrequently used by learners. -many features are not easily understantable and user friendly as other social media's -exchanging of sources and notes among learners is challenging. -Not everyone in the class understands how to use it -Some students miss out on information as they do not have enough knowledge about its use. • Some students not able to use some options or posts in different places in LMS. • Confusing to search for relevant information -No alert system for announcements on the mobile phone screen
Social media discussion	WhatsApp; Twitter; Instagram	-Popularly used by learners as they are able to post messages promptly and speedily and comment on it. - Students can view who has read the message and the time of deliverance . - They can make different groups with a different types of privacy options. -They can interact comfortably within the group and thus promote teamwork. -They feel relaxed as they can receive instant messages on the phone screen as a notification so the chance of missing out any information becomes less. -Everyone can add and edit the information posted in the messages and can make wide-ranging notes as per instruction given to the students	-All the resource material not available collectively in one easy-to-access place especially while learning in modules with many subjects to be learned. -With audio and video messages the memory of the phone gets full. -Powerpoint reading and editing options not there in many phone models. -Not supported by a university or facilitated by the faculty all the time. -The tendency to copy and paste by students from each other is high. • Sometimes learner's shifts to personal comments from academic topics under discussion and such personal conversation wastes other students' time. • Hard to organize so cannot be structured and there can be no folders made. • More problematic to look at earlier posts and gather back the information outside a specific point.