

Nursing Student's Perceived Barriers, Achievements, and Satisfaction to Blackboard Utilization as a Digital Platform.

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Abstract

Overview: On line, learning has always been a debatable topic, yet during COVID-19. The students have no choice to choose online or traditional learning. Ministry of education has forced all students in Saudi Arabia to study through blackboard as a digital platform to protect them from COVID-19. The outcome of online learning has not been investigated as well as student's readiness, acceptance and environmental infrastructure. **Aim:** identify nursing student's perceived barriers, achievement and satisfaction to blackboard utilization as a digital platform. **Design:** exploratory descriptive research design was used. Setting: college of applied medical science, affiliated to Jouf University. **Tools:** four tools were used, 1- Nursing student's socio demographic characteristics, 2- Nursing students perceived achievements to black board digital platform, 3- Nursing Students perceived satisfaction to blackboard digital platform, 4- Nursing student's perceived barriers to blackboard digital platform. **Result:** blackboard was found to be unfamiliar way by more than half of the students (56.41). However, the finding conveyed that students with high computer experience had few obstacles to learn than those students with no computer experience, there were positive correlations with high statistical significant between all of sub-scales of black board perception regards perceived achievements, satisfaction and barriers. **Conclusions:** the study highlights nursing student's perceived barriers (hard method), need training, make students psychological disturbed. Moreover, it facilitates student's contribution & frustrates them to improve learning skills.

Keywords: Barriers, Satisfaction, Achievements, Blackboard System, Nursing students.

Introduction

A novel corona virus, known as a COVID-19, was discovered in the last month of the year 2019, in Wuhan, China, clinical analysis results of the virus showed person transmission. The director general of WHO in March 2020 declared COVID 19 as a pandemic after assessment of the rapid spread and severity of the virus across the globe with additional announcement of social distancing as a means of curbing the spread of the pandemic (WHO,2020, Wiersinga, et al., 2020).

The pandemic has forced global physical closure of business, sport activities and pushing all educational institutions to online platforms. The COVID 19 pandemic outbreak forced educational institutions (school and colleges) to remain closed temporarily. Several areas are

affected worldwide and there is a fear of losing this whole ongoing semester. Various schools, colleges and universities have discontinued traditional method of teaching (Dahawan, 2020).

Educational units are struggling to find options to deal with this challenging situation. These circumstances make the government realize that scenario planning is an urgent need for academic institutions. There is an urgent need to protect and save students and teachers, faculty, academic staff, communities, societies and the nations as a whole (Adedoyin, Soykan, 2020, and Bhat, 2019).

Combining face-to-face lectures with technology give rise to blended learning and flipped classrooms. This type of learning environment can increase the learning potential of the students; students can learn anytime and

anywhere, and therefore developing new skills in the process leading to lifelong learning (Zalar, Hamed, and Bolbol 2021).

The government also recognizes the increasing importance of online learning in this dynamic world. Therefore, online serves as a panacea in the time of crisis. Adopting digital learning platforms can pose real risk to the integrity of educational nursing programs where some barriers may comfort students and may minimize their achievements and satisfactions (Zalar, Hamed, and Bolbol 2021).

Zalar, Hamed, and Bolbol (2021) concluded that inadequate computer labs, interrupted / unstable internet connectivity, shortage of computers/ laptops, and technical problems are ranked as the highest challenge for adopting this system. These also come in accordance to findings of study conducted by Nguyen, et al., (2020) who stated that the main obstacles to e-learning can be data collection. Categorized into several stakeholder stand point pertained to infrastructure, managements, technical support, procedure and pedagogical aspects.

It is anticipated that with adopting the blackboard as a digital educational platform, the role of the students will be transformed into center approach where the student must struggle to adjust to new virtual education technologies, therefore, this study aim to identify nursing students perceived barriers, achievements and satisfaction to black board as a digital platform (Kaur, et al., 2020).

Aim of the study

The aim of the present study is to: Identify Nursing Students perceived barriers, achievement, and satisfaction to black board utilization as a digital platform.

Research Questions:

- 1- What are the nursing students perceived barriers to blackboard utilization as a digital platform.
- 2- What are the nursing students perceived achievement to blackboard utilization as a digital platform.

- 3- What are the nursing students perceived satisfaction to blackboard utilization as a digital platform.

METHODOLOGY

Setting: This study was conducted at nursing department, nursing department at College of applied medical sciences, affiliated to Jouf University located in Jouf governorate, Sakaka city, Saudi Arabia. College of applied medical sciences consists of three departments: nursing, physiotherapy and rehabilitation, and Clinical Laboratory Sciences.

The data collection period: It was extended for three months, from 1 January to the end of March 2021.

Population: All nursing students who are regular registered and who engaged in digital platform/blackboard system, their total number is 350 nursing students at the beginning of the academic year. To achieve the bachelor degree, the students in nursing department should complete eight levels in 8 semesters (4 years), in addition to internship year, which includes 12 months clinical training, the teaching approach is in credit hours, the student numbers in each level from level one to eight, are: 80, 70, 50, 40, 30, 25, 25,30 respectively.

Sample: A convenience sample consisted of (only 234 out of 350) student nurses at nursing department from the eight levels, in College of applied medical sciences. They have already registered their courses on blackboard system based on Jouf university regulations. The overall response rate of student nurses to questionnaires was around 66.9% (234 out of 350).

Tools: Data was collected through the use of an online four tools to determine the nursing students' perceived barriers, achievements and satisfaction to blackboard system after reviewing the related literature and consulting experts. It was written in simple Arabic language. The tools that were used are:

Tool 1: Nursing Students' Sociodemographic Characteristics: as regards age, Sex, Marital status, experience of using computer, and their Grade Point Average (GPA).

Tool 2: Nursing Students' Perceived achievements to Blackboard System: this tool adapted from Ibrahim, Mohamed, Aldhafeeri, & Alqdah (2019) and determines the nursing students' perceived achievements to Bb system, the students were asked to rate their answers in three points Likert scale that ranged from 3 = agree to 1 = disagree. It includes eight statements such as encourage diversity in teaching methods, facilitate students achievements, and give students the chance to manage their time wisely.

Scoring system: each item has score of 3 if the student answer is (agree), 2 if the student answer is (Neutral), and 1 if the student answer is (disagree) ,so, the total scores of perceived achievements of Bb system is 24.

The levels of perception of Perceived achievements are divided as the following: low=8-13, moderate=13-18, and high=18-24.

Tool 3: Nursing Students' Perceived Satisfaction to blackboard system, this tool adapted from Ibrahim, Mohamed, Aldhafeeri, & Alqdah (2019) and it includes six statements such as provide students with more satisfaction, saving time & efforts for students, and aids students to have self-confidence. The students were asked to rate their answers in three points Likert scale that ranged from 3 = agree to 1 = disagree.

Scoring system: each item has score of 3 if the student answer is (agree), 2 if the student answer is (Neutral), and 1 if the student answer is (disagree) ,so, the total scores of perceived achievements of Bb system is 18.

The levels of perception of Perceived satisfaction are divided as the following: low=6-10, moderate=10-14, and high=14-18.

Tool 4: Nursing Students' Perceived Barriers that facing them during using Bb system, this tool adapted from Ibrahim, et al (2019). It includes eight statements such as Bb system is not popular method to provide information, response rate to student's questions is low, and Bb system makes students psychologically distressed. The students were asked to rate their answers in three points Likert scale that ranged from 3 = agree to 1 = disagree.

Scoring system: each item has score of 3 if the student answer is (agree), 2 if the student answer is (Neutral), and 1 if the student answer is

(disagree) ,so, the total scores of perceived achievements of Bb system is 24.

The levels of perception of Perceived Barriers are divided as the following: low=8-13, moderate=13-18, and high=18-24.

Validity and reliability: To ensure the validity of the tools, a panel of five experts from nursing specialty was invited to measure the internal consistency of the tool. Based on the revision of the questionnaires, the value of Cronbach's coefficient alpha test was greater than 0.8 and the value of test-retest reliability for all tools as the following:

Tool 2: 0.78, Tool 3: 0.79, and Tool 4: 0.81

Pilot study: A pilot study was carried out on 10% of the studied sample, it was excluded from study sampling) for measuring reliability.

Procedure: After approval from dean of faculty of applied medical sciences, and coordinator of nursing department, Data were collected using public link questionnaires.

The researchers developed link questionnaires, and the university chief information officer sent the questionnaires to all the students (350 in all levels) in nursing department through the blackboard system with the consent to the students to be obtained and the purpose of the study.

Only (234) out of 350 agreed to participate in the study, so, the overall response rate for participation in the study was around 66.9 %.Then, the study was started. The estimated time to fill the questionnaire was consumed from five to ten minutes to be answered. All questionnaires were returned to researchers via the link, and then the statistical analysis was started.

Methods

Data collection

- Approach to carry out the study was obtained from the research ethical committee of the study setting
- An official letter was submitted to the responsible authority of the study department to take their permission to carry out the study after explanation of the study aim.
- Three tools were adapted based on review of the relevant literature (Ibrahim, Mohamed, Aldhafeeri, & Alqdah, 2019).
- All 3 tools were tested for content validity by five experts in the related field (three nursing education and two in educational technology).

- All tools were tested for reliability using cronbach alpha test F through one week in between it was found for tool 1/for tool 2, for tool 3.
- A pilot study was carried out on 10% of students to test feasibility and applicability of the study tools as well as to identify any problem or obstacles that may arise and time needed for each applications.

Ethical Consideration: This study was approved by the Ethical Committee for scientific research in the faculty of applied medical sciences. Each subject was informed about the study purpose. The subjects were informed that their participation is totally voluntarily & confidentiality and anonymity of the subjects were assured.

Statistical Analysis: The collected data were organized, tabulated and statistically analyzed using SPSS software. In addition, Pearson correlation. Significance was adopted at $p < 0.05$ for interpretation of results of tests of significance.

Results:

As regards to the socio-demographic characteristics of the studied sample, **Table (1)** revealed that nearly more than half (53.4%) of the respondents were females and 55.6% of them aged between 18-20 years old with mean score 20.04 ± 2.34 . It was apparent that most of the participants 76.9% were single, as well as 57.7% had 3-6 years' experience of using computer. Regarding Grade Point Average (GPA), 55.6% of the respondents had Good (2.75 -to-3.75).

Figure (1): displays the nursing students' perceived barriers to Bb system. As displayed in this table, (79.91%) of students agree that Bb requires special training for students. About two thirds of them (66.67%) agree that, response rate is low to respond to students questions. More than half of students (56.41%) agree that, a Blackboard is not a popular method to provide information. Less than half of students (48.72%) agree that, Blackboard system needs administrative support from the college. About one third of them (36.32%) agree that, Blackboard is poor in the learning environment. About less than one third of them (31.20%, 29.49%) agree that, using the Bb system makes students anxious about their learning and students are not motivated to use blackboard respectively. Only (26.07%) of

students agree that Bb system is harder than other methods.

Figure (2): illustrates the perceived achievements of blackboard among students. It is obvious from the table that, the highest percentage of students (83.33%, 79.91% & 70.94%) perceives that blackboard as an effective way to encourages them to use their time management wisely, Blackboard gives them the chances to gain knowledge, and Blackboard encourages them to increase practice for their teaching process respectively.

Around two thirds of students (64.53%, 61.97) perceive that Bb system facilitates students to take the same classroom information in the familiar environment of the internet and communication between faculty members and their students via Bb system is easy respectively.

Moreover, (51.71%) of students perceive that Bb system encourages diversity in modern teaching methods. While, (38.89%, 37.61%) of students perceive that Bb system facilitates to achieve the students' learning needs, and Bb system provides sufficient guidance during the teaching process respectively.

Figure (3): indicates the nursing students' perceived satisfaction to Bb system. As evidenced from data analysis, the highest percent (83.33% & 79.91%) of students perceive that Blackboard System as an easy electronic approach to use, and Blackboard provides students with more satisfaction in the teaching process respectively. Slightly more than half of students (57.26% & 52.99%) perceive that Blackboard aids students to have self-confidence, and Blackboard is a saving method for time and effort for students respectively. Slightly less than half of students (48.29%) perceive that Blackboard facilitates contribution of students more than other forms of learning. While (64.52%) of them perceive that Bb system does not frustrate students to improve their learning skills.

Table (2): represents Correlation between subscales of Bb system perception among students and their sociodemographic characteristics. It revealed positive correlations with highly statistical significant between all subscales of b Bb system perception among students and their sociodemographic characteristics at the level of (0.01).

Table (1): Percent Distribution of students according to sociodemographic Characteristics (N = 234).

Items		No	%
Age	(18-20) years	130	55.6
	(20-22) years	40	17.1
	<(22) years	64	27.4
	Total	234	100.0
	Mean ± SD	20.04	+2.34
Sex	Male	109	46.6
	Female	125	53.4
	Total	234	100.0
Experience of using computer	(1-3) years	32	13.7
	(3-6) years	135	57.7
	<(6) years	67	28.6
	Total	234	100.0
Marital status	Single	180	76.9
	Married	44	18.8
	Divorced	10	4.3
	Total	234	100.0
Grade Point Average (GPA)	Acceptable (2-2.75)	41	17.5
	Good (2.75-3.75)	130	55.6
	Very Good (3.75- 4.5)	38	16.2
	Excellent (4.5-5)	25	10.7
	Total	234	100.0

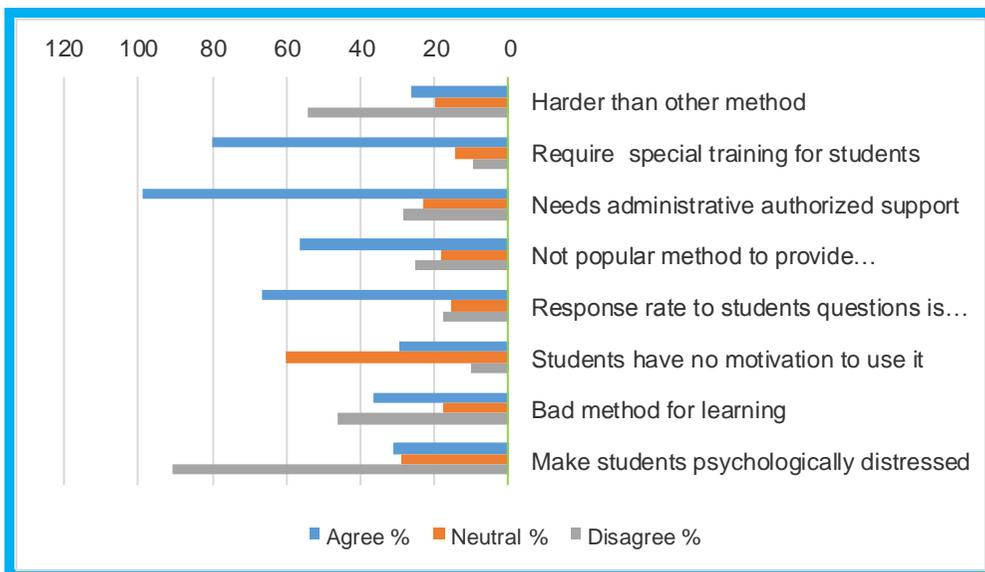


Figure (1): Nursing students perceived barriers to blackboard digital platform Utilization

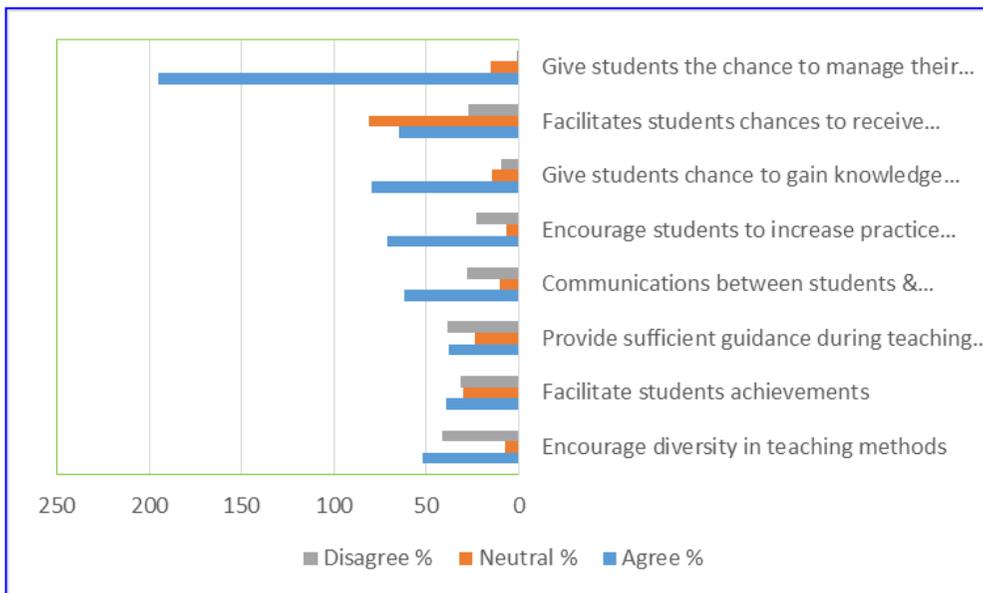


Figure (2): Nursing students perceived achievements to blackboard digital platform Utilization in Higher Education.

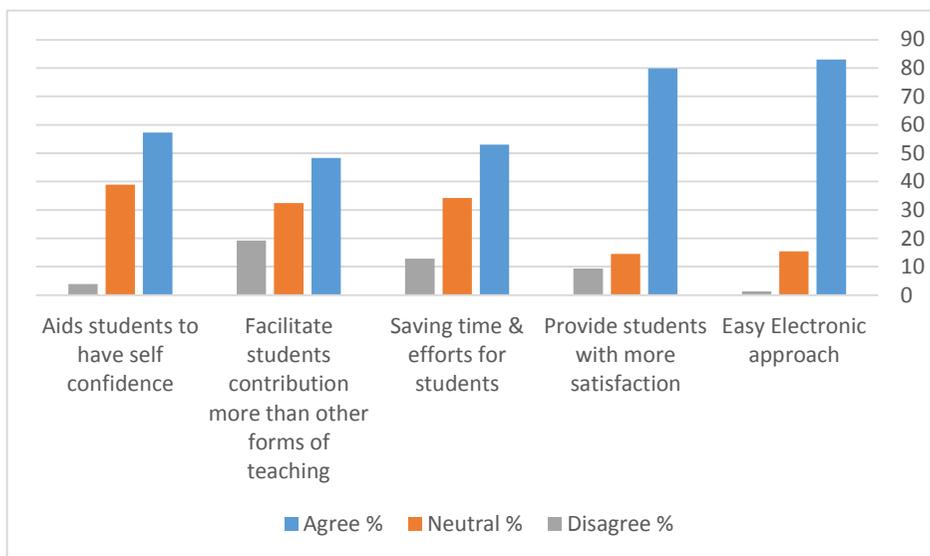


Figure (3): Nursing students perceived satisfaction to blackboard digital platform Utilization in higher educational system.

Table (2): Correlation Matrix between Nursing Students' Perceived Barriers, Achievements, satisfaction Scales to Blackboard System and their Sociodemographic Characteristics.

Variables	Age	Experience in using computer	Academic GPA	Perceived achievements	Perceived Satisfaction	Perceived barriers	Total
Age	1.00						
Experience in using computer	0.732**	1.00					
Academic GPA	0.767**	0.896**	1.00				
Perceived achievements	0.334**	0.389**	0.462**	1.00			
Perceived Satisfaction	0.529**	0.609**	0.636**	0.611**	1.00		
Perceived barriers	0.229**	0.294**	0.319**	0.780**	0.470**	1.00	
Total	0.395**	0.470**	0.519**	0.937**	0.754**	0.894**	1.00

****. Correlation is significant at the 0.01 level (2-tailed).**

Discussion

On March 17, 2020, the Saudi government announced Four weeks curfew in an attempt to control the escalating COVID-19 crisis as much as the Ministry of Education announced moving all classes to virtual platforms to complete the academic year requirements with a modified academic calendar. Universities and colleges were given the authority to choose blackboard as an educational platform, organize class schedules, and take control of monitoring the educational process to ensure education integrity (Almekhlafy, 2020).

Initially, students did not accept the idea of online learning. Many reasons were behind this response. Mainly students were experiencing a sudden transition to a new platform of education. The students and the setting were not prepared (Asiri, Mahmud, Ayub, 2012 and Hussin, 2016).

Nursing courses had practical laboratory sessions and clinical sessions in hospitals. The laboratory and clinical practice parts were the most challenging to account for.

For classes with a practical session, instructions were advised to do a video demonstration of the procedure. Students were challenged with the increased incidence of COVID-19 cases and to ensure the safety of students and faculty, the final exam was

administrated online irrespective of familiarity of students with an online exam. Students might lose internet connection during the exam. Some students demonstrating their rejection of online learning.

It was stressful and challenging to go from an all-face-to-face program to all online programs. This forced faculty and students to a new organized platform (blackboard) that is accessible anywhere and anytime (Barhouni, AlKhassawneh, 2017). Therefore, the aim of this study is to identify nursing students perceived barriers, achievements, and satisfactions to blackboard utilization as a digital platform.

In this study, the results indicated that both students and faculty members can benefit from using Bb in teaching-learning process.

Concerning the perceived barriers among nursing students, the perceptions of students toward this application as a substitute to the traditional instructions were affected by the challenges and fears caused by the sudden and quick shift especially in the period of crisis such as during coronavirus pandemic (Dhawan, 2020, Kanwal, Rehman, (2017). In addition, Al-Maqtri (2014) found that removing all barriers that hamper online learning via Bb guarantee success, in spite, our study revealed different barriers. The majority of students stated that the first barrier is that Bb requires special training for students. In agreement with

these results, in Almekhlafy, (2020) study which conducted to investigate the perceptions of students toward the Bb application in the process of learning preparatory year, the researcher found poor internet access and lack of technical skills were the major challenges of online learning via Bb.

Moreover, Alshwiah (2010) and Al Zumor et al. (2013) reported that students require more training and orientation in learning via Bb. In addition, about two thirds of them agree that, Bb takes extra time to respond to students questions. More than half of students agree that Bb is not a popular method to provide information. Less than half of students agree that, Bb utilization needs support from the college's administration. About one third of them agree that Bb lacks the learning environment. About less than one third of them, agree that, using the Bb system makes students psychologically distressed about their learning, and students are not motivated to use blackboard respectively. Only of students, agree that, Blackboard system is harder to learn than expected.

On contrary, Cheok, Wong, and Ayub (2017) confirmed that administrative support is one of the most important obstacles for using Bb especially by looking into critically needed facilities, such as a reliable and fast Internet connection and providing enough computers for all students. Administrators need to play a more active role in creating conditions fostering innovation.

However, Zaki and El Zawaidy (2014) found that the obstacles faced by a faculty member using the Bb may vary among universities depending on the training and technology efficiency, and evaluation of blended learning involves in evaluation on classroom lecturing, virtual teaching, and blended discussion. Every university has its own evaluation system for classroom lecturing. Moreover, Asiri, Mohmud, and Ayub (2012) focused that the faculty members in Saudi Arabian educational institutions faced several barriers that inhibited them to use of technology, more specifically in the form of organizational, technological, and personal barriers.

The perceived achievements of blackboard by those students, blackboard was considered as an effective way to encourages them to use their time management wisely. In contrast to this findings, Ibrahim, et al, (2019), who conducted a quantitative descriptive design in nine Colleges on 210 faculty members, indicated that, the faculty members mentioned that Bb does not encourage students to use their time management wisely. They explained these findings as the participants in their study claim that students are one of the factor constraints against their utilization of the system. The cause for this result may be due to the desire of the students to take lecture notes when they needed rather than posting them on Bb. The study results also indicated that Bb provides them with the opportunity to gain knowledge, and Bb encourages them to increase practice for their teaching process.

In contrast, Affouneh ,Salha, and Khlaif (2020) stated that the adoption of online learning had its disadvantages, which demotivated students to learn online. Others asserted that students faced many technical difficulties, which hampered and slowed down the learning process (Hao, 2020; Favale et al., 2020).

In addition, the students indicated that Bb gives the students the chances to receive the same classroom information in the familiar environment of the internet, and Bb facilitates communication between faculty members and their students. Moreover, students perceive that Bb encourages diversity in modern teaching methods. As well, they perceive that Bb learning system meets the learning needs of the students, and Bb gives sufficient guidance during the teaching process. Contradiction to this findings, (Hao, 2020; Favale et al., 2020), reported that the direct communication between teacher and learner minimized or stopped.

It is clear that, students accept the previously achievements. these findings are in line with Ibrahim, et al (2019), who indicated that, the faculty members suggested that their potential benefits from Bb include using an effective way to manage an e-learning course, providing the necessary experience to teach various e-courses, enhancing diversity in modern teaching methods, and facilitating

communication between them & their students. Additionally, the faculty members mentioned that the students' potential benefits from Bb include providing sufficient guidance during teaching process, motivating to increase practice for teaching process, allowing with course materials, as well as allowing them the opportunities to acquire knowledge and to receive the same classroom information in the familiar environment of the internet.

As well, (Cheok, and Wong, and Ayub 2017) mentioned that many of the teachers appreciated virtual learning environment (VLE) in helping them to make their teaching job easier than the traditional approach, organize their teaching and learning materials, saving their time when updating or locating specific materials and being easy to use.

Regarding the perceived nursing students' satisfaction, as evidenced from data analysis, the majority of those students perceive that Bb as an easy electronic learning system to use, and Bb provides more satisfaction for students in the teaching process respectively. Slightly more than half of students perceive that Bb enables students to be self-confident to facilitate learning, and Bb saves time and effort for students respectively. Slightly less than half of students perceive that Bb facilitates engagement of the learners more than other forms of learning. While slightly less than two thirds of them perceive that Bb does not frustrate students to improve their learning skills.

In contrast to this findings, Ibrahim, et al (2019), indicated that the faculty members suggested that, the Bb does not motivate them to increase their efficiency of teaching or allow them to meet the students' learning needs. These findings may be due to faculty members' lack of needed training and experience in using Bb, lack of internet signal that interrupts teaching process and restricted rules that obligate them to develop their technological skills in producing electronic materials. Moreover, Dhawan, (2020) stated that many students also faced psychological problems during crisis – there were stress, fear, anxiety, depression and insomnia that led to a lack of focus and concentration.

Based upon this study's finding, it revealed positive correlations with highly statistical significant between achievements and satisfaction of Bb perception, however, there is strong negative correlations between satisfaction and barriers among students. All questions about the achievements, satisfaction, and barriers of Bb system, were answered.

Finally, learning via Bb has some barriers. First, the institutions should be ready with all facilities and requirements for online learning via Bb (Mhlanga and Moloi, 2020). Students and faculty members should not face any technical barriers (Al Zumor et al., 2013). Second, students and faculty members should be trained and have the required technical skills to use Bb system effectively (Jena, 2020). As stated earlier, Bb has many tools and features, which provide both students and teachers an interactive platform for learning. Therefore, lacking the required technical skills affects the potentiality of Bb as an online learning platform (Al Zumor et al., 2013, Aydin, and Yazici, 2020).

Limitation of the study

This study has some potential limitations. Being one time quantitative descriptive design study, the nursing students' perceptions may change over time. Therefore, a further longitudinal study is required to enhance the understanding of barriers, achievements and satisfaction to Bb System among those students. Also, the present study was conducted in one medical college - nursing department. So, in the future, additional studies need to be done using subjects from other universities to investigate nursing students' perceived barriers, achievements and satisfaction to Bb in higher educational institutes.

Conclusions:

The study highlights nursing student's perceived barriers to blackboard as a digital platforms as harder method, students need, special training, make students psychologically distressed while facilitate students achievements and communications, Moreover, it facilitate students contributions and frustrates them to improve their learning skills.

Recommendation:

Replication of the study using non probability sampling on a large population in different geographical region.

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