ORIGINAL RESEARCH

Perception of students regarding blended learning implementation of community health nursing course at faculty of nursing, Tanta University, Egypt

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ABSTRACT

Background and objective: Blended learning is an approach that alternates online learning for a portion of the traditional face-to-face instructional time. Blended learning offers several advantages to students, faculty and institutions. The community health nursing (CHNg) is considered the first electronic nursing course at Faculty of Nursing-Tanta University. The aim of the study was to assess the perception of students regarding blended learning implementation of community health nursing course at faculty of nursing, Tanta University, Egypt.

Methods: A cross-sectional design was used. The study was conducted at Faculty of Nursing, Tanta University, Egypt. All community health nursing undergraduates students (n = 314) were included in the study. The tool of the study was adapted from relevant studies conducted by Roca et al. (2006) and Song (2010) and translated into Arabic, then distributed to students.

Results: About 40% of students indicated their agreement about the good reputation of CHNg blended course, loyalty to the course, and that its service and instruction was delivered as promised. On the other hand 60.5% of students indicated their disagreement about the fast browsing of the site, and high percentage of them indicating low instructor interaction.

Conclusions and recommendation: Students had good believes about CHNg blended course but not agree about some statements of its usability and usefulness, service and instructor interaction. Faculty instructor and the responsible person in Information and Communication Technology (ICT) unit in the university have to do great efforts to help student to use and get benefit of CHNg blended course.

Key Words: Community health nursing, Blended learning, Perception, Nursing students

1. INTRODUCTION

All over the world, the rapid development of information, internet technologies, Web-based applications and communication technologies have initiated unparallel transformation in universities. The way of teaching and learning on university campuses are changing by electronic learning (e-learning).[1,2] A type of learning supported by information and communication technology (ICT) via the extranets, intranets, internet, or many others to improve the quality of teaching and learning is known as E-learning.[2,3] Increasing opportunities for lifelong learning is cost effective and convenient for all students have been achieved by E-learning. There are several advantages for E-learning over traditional learning, mainly, in allowing learning anyplace and anytime.

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Also it permits students to reflect on the learning materials and their responses, and allows them to work at their own pace, regardless of sex, race, disability or appearance.[1] Several variables may be influence students' perception of e-learning in university education, such as gender, age, technology acceptance, previous experience of computers, and individual learning styles as major predictive factors.[4] Saade, Nebebe and Tan (2007) have reported that people will use technology when they perceive that the technology will increase their performance.[5]

In the 21st century, any university without ICT may be depriving their students of opportunities to develop their skills for the future.[6] Students in higher education can now encounter a wide range of learning experiences, ranging from traditional lectures and seminars to synchronous and asynchronous online lectures, from taking lecture notes in formal lectures to interactive sessions involving innovative ICT use. This has led to the development of a high range of terms referring to the use of new technology.[7] The combination of traditional lectures with web-based content has become increasingly popular. This arrangement has become known as Blended learning.[8, 9]

Blended learning is an instructional approach that substitutes online learning for a portion of the traditional face-to-face instructional time. Blended learning offers many advantages to students, faculty and institutions; for students appear to be more satisfied and gained higher grades than in either fully lectures or fully online classes; faculty benefit from increased flexibility in their teaching schedules; and institutions see it as a model that makes efficient use of classroom space.[10, 11] As regard students satisfaction with blended learning, a greater satisfaction of students with blended courses, compared with both traditional face-to-face and fully online modes of education have been reported by several studies.[12–16] Lectures with blended courses provide students with a chance to interact directly with faculty and to receive immediate support, guidance and instructions.[12, 15, 17] Additionally, students feel that engagement in interactive lectures helps them to participate with other students in the class and to develop close relationships with each other that are anticipate promoting the development of a strong learning community outside of the classroom.[18, 19] Gain confidence in applying acquired knowledge into practice and having a connection between lectures and online learning environments in the blended courses enables students to receive knowledge and feedback from multiple sources, related to the subject matter of the course, that are believed by the students.[12, 18–21]

Students' conceptions of learning, their ability to accept responsibility for their learning, and the degree of interactivity outside of the classroom are the important factors that influence the achievement in blended courses.[20, 22, 23] Using interactive technologies helps students to increase their learning productivity, encourage a deeper approach to learning, promote the development of communication skills, and improve their understanding of course content that are believed by the students.[18, 24, 25] Students may be controversial viewpoints, voice different and harness the potential of an online learning community for collaborative participation in co -production of knowledge of the subject matter and negotiation of its meaning by the feelings of safety, anonymity, and connectivity inherent in online interaction.[26]

The use of Health Information Technology (HIT) is essential to the communication process in all areas of nursing practice. Since 1970s nurses have partnered with multidisciplinary team member in the delivery of care and in the design and implementation of HIT system within many health care settings. Since that time nurses was guiding and developing Nursing Informatics (NI) into a well-established specialty within nursing.[27] The delivery of course materials, improve access by students and faculty, streamline course management, improve learning outcomes and reduce costs can be facilitated by information technology. E-learning, blogs, online scholarly and simulations and research journals are widely range of applications of information technologies in nursing education. Institutions leverage limited resources and thereby expand teaching capacity can be improved by clinical simulation and e-learning.[28, 29]

Improving nursing and health care by informing clinical care, interconnecting clinicians, personalizing care, and improving population health are achieved by health information technology which is considered the top priority in nursing improvement. Nowadays, the importance of traditional teaching methods is decreased with the rapid change of the world technology. Faculty competence and confidence in teaching with technologies are supported by rapid expansion in online learning, national calls for all students to gain informatics competencies, and the major impact of high-fidelity patient simulators.[30]

Learning is a major sector in the Egyptian industry. Control cost, attract students, and fulfill customers' needs for convenience and technical innovation that can achieve by realizing of learning institutions of the importance of investing in technology.[31] The rapidly growing enrolment rate that started in the 1970s and 1980s, which lead to a large number of students per class led to decline of the higher education quality in Egypt.[32, 33] Beckstorm et al. 2004 stated in their investigation about readiness for e-learning in Egypt that

there is a positive response to Egypt readiness. The Ministry of Communications and Information Technology has been maintaining a free internet access nationwide since 2002, where more than 15,000 ports serving 2 million internet users, with users paying only for local phone tariffs.[32]

In Egypt, problems such as overcrowded classrooms and transportation problems have been overcome by e-learning. The gap between the number of university places available in Egypt and the growing demand for higher education can be filling in by the adoption of e-learning which can provide an economic and more suitable solution to the higher education problem. The Egyptian Ministry of higher education has made its first attempt in collaboration with higher education institutions in Italy, Canada and the United States to launch Egypt's first electronic non-profit university.[33] The immature infrastructure, computer/internet illiteracy and unawareness, resistance to change are the most important challenges which facing e-learning in Egypt.[34] In order to overcome these challenges with quality accessible and acceptable educational opportunities, E-learning models have been recognized as one of the essential and helpful educational method.[32]

The National E-learning Center was established within the Supreme Council of Universities to promote the development of e-learning in Egypt through adopting standards for course development, supplies support to universities through infrastructures, information, tools and training programs.[35] In 2005 Tanta University E-learning Center was established to promote and encourage excellence in learning by providing the expertise and supporting the faculties at the university level. Tanta University is one of the Egyptian universities that has powerful network infrastructure and using ICT in education. E-learning has been positioned as a "revolution in education". It is a vital tool for developing the skills needed for future practitioners and an excellent method for enhancing lifelong learning.[36, 37] As nursing field is a high field with highly specific needs for the students, thus the researchers designed several nursing electronic course at Faculty of Nursing-Tanta University, Egypt. Community health nursing (CHNg) is considered the first electronic nursing course at Faculty of Nursing-Tanta University. It is considered the first CHNg electronic course among all Egyptian universities and the first electronic course in all faculties of Tanta University. As the students are the core of the learning process and supporting the argument that learners are experts in their own experiences so the first E-curriculum experience cannot be ignored. Therefore this study aimed at assessing the perception of students regarding implementation of community health nursing blended course at Faculty of Nursing, Tanta University, Egypt.

1.1 Aim of the study
The aim of this study was to assess the perception of students regarding blended learning implementation of community health nursing course at faculty of nursing, Tanta University, Egypt.

1.2 Research questions
(1) What are the beliefs of the nursing students' regarding blended learning implementation of community health nursing course at faculty of nursing Tanta University?
(2) What is the students' perception regarding the effectiveness of community health nursing blended course as a higher education mode of learning at faculty of nursing Tanta university?

2. MATERIALS AND METHOD
2.1 Study design
Cross-sectional study was employed as the method of data collection.

2.2 Study setting
The study was conducted at Faculty of Nursing, Tanta University, Egypt.

2.3 Study subjects
All community health nursing undergraduates students (n = 344) enrolled at community health nursing course first and second terms of academic year 2014-2015 at faculty of nursing Tanta university were included in the study, 30 students of them were affiliated to the pilot study and the rest of them (314) were affiliated to the actual study.

2.4 Tools of the study
The researchers developed a questionnaire sheet according to the relevant literature reviews to achieve the objectives of the study to collect the needed data. It included the following parts:

Part (1): This part included socio-demographic data related to the students such as: age, sex, academic year in which the students were enrolled and previous E-Learning courses experiences.

Part (2): This part included the scale used to measure the students' perception regarding blended Learning of course of community health nursing. The scale was adapted from relevant studies conducted by Roca et al. (2006) and Song (2010)[38, 39] and translated into Arabic. The original scale was rated on seven-point likert-type but the researcher adapted it on five-point likert-type. This scale instrument contained four major measures. They were as follows: perceived quality, perceived usefulness, student satisfaction, and

student loyalty. Additionally, the belief and attitude toward blended learning were measured. The reliability of each of these measures using Cronbach's α was calculated as follows:

(1) Measurement of Perceived Service Quality (PSQ)

Implementation of community health nursing course aspects: (1) information quality, (2) usability, (3) service interaction, and (4) instructor interaction. To measure the students' perceived service quality (PSQ) toward a blended learning implementation of community health nursing course these four dimensions with 30 items were adopted from the study by Roca et al. (2006) and Song (2010).[38, 39] The system quality means quality of site design and its usability. Information quality refers to the "suitability of the information" for the user's purpose. Items measure the quality of information of accuracy, reliability, time line, relevancy, understandability, completeness, and format. Service interaction quality measures the quality of the service interaction experienced by users as they engage deeper into the site, embodied by trust and empathy. Service interaction quality measures transaction and information security, product delivery, personalization, and communication with the website owner. The scale's items with Cronbach's α were 0.971. All items were rated on a 5-point Likert-type scale, ranging from (1) strongly disagree to (5) strongly agree.

(2) Measurement of students loyalty

In this study, students' loyalty refers to the loyalty of students during and/or after their participation in blended course of community health nursing. A students' loyalty may be expected to be based on their experiences during blended learning implementation of community health nursing course. Five items were adopted from the study of Roca et al. (2006) and Song (2010). The scale's items with Cronbach's α were 0.923. Each item was measured on a five point Likert scale, ranging from 1–strongly disagrees to 5–strongly agree.

(3) Measurement of satisfaction

Satisfaction includes many emotions, and each emotion may be verbalized in two dimensions, pleasantness-unpleasantness, and low arousal-high arousal (Bagozzi, Gopinath, & Prashanth, 1999).[40] The definition of overall satisfaction in this study is as an affective state representing an emotional reaction to the entire web-assisted learning experience. A scale with nine items ($\alpha = 0.849$) adopted from Roca et al. (2006) and Song (2010) was used. Each item was measured on a five-point Likert scale, ranging from 1-strongly disagree to 5–strongly agree.

(4) Measurement of Perceived usefulness (PU)

In this study, PU was pointed to students' perceptions of the expected benefits of blended learning use. The scale's items (ten items) with Cronbach's α were 0.962, was adopted from the studies of Roca et al. (2006) and Song (2010). It included three items that assess students' benefits in terms of learning performance, learning effectiveness, and the overall usefulness of blended learning implementation of community health nursing course service. Each item was measured on a five-point Likert scale, ranging from 1–strongly disagree to 5–strongly agree. The initial questionnaire was developed through an extensive literature review.

2.5 Ethical considerations

Before conducting the study, a written permission letter was obtained from the head of community health nursing department and the Dean of Faculty of Nursing, Tanta University. An informed oral consent was obtained and rights, anonymity and confidentiality of the students were respected in all phases of the study. All students were informed about the purpose and the benefits of this study.

2.6 Developing the tool

The researchers developed part one according to relevant literature to meet the objectives of the study and part two of a questionnaire was adapted from Roca et al. (2006) and Song (2010).[38, 39] The study questionnaire includes four major measures. They are as follows: perceived quality, perceived usefulness, student satisfaction, and student loyalty. Also, belief and attitude toward the blended learning were measured.[41]

2.7 Validity and reliability of the tools

Part II of the questionnaire was translated into Arabic by the researchers, and then four faculty members (three form community health nursing department and one from public health and preventive medicine faculty of medicine Tanta University) reviewed the tool to ensure that the questionnaire measurement scales, design, and wording were appropriate for this study. All recommended modifications were performed. The reliability of the questionnaire was also assessed by calculating the Cronbach's alpha 0.948.

2.8 A pilot study

After obtaining permission from the dean of faculty of nursing and students, a pilot study was conducted on 30 students. Those students were excluded from the study sample. The purpose of the pilot study was to test the reliability of the tool, clarity and to determine the length of time needed to collect the data from each student accordingly modification was done.

2.9 Data collection

The study was conducted at the end of first and second semesters of academic year 2014-2015. Data was collected by distributing the questionnaires to the undergraduates students enrolled at community health nursing course during first and second semesters. The collected data were categorized, tabulated and made ready for use.

2.10 Statistical analysis

The data were coded, entered and analyzed using SPSS (version 20). Descriptive statistics (frequency numbers Percentages). Statistical significant was set at p value < .05. Spearman correlation was used to examine the correlations between the overall usability, overall information quality, overall service interaction quality, overall instructor interaction quality, and overall perceived usefulness and overall blended learning satisfaction.

3. RESULTS

Table 1 represents the distribution of the studied sample according to their socio-demographic characteristics. Regarding the studied students' age, it was found that nearly two thirds (61.4%) of the students were aged 22 years, with a mean age (21.7 ± 0.61). More than two thirds (70.9%) of the students were female, and only (10.8%) of them have no past experience with E-learning courses.

Table 1. Distribution of the studied students according to their socio-demographic characteristics

Demographic characteristics	Studied students	
	No = 306	%
Age in years		
21.00	102	33.3
22.00	188	61.4
23.00	16	5.3
Mean = 21.7 ± 0.61		
Sex		
Male	89	29.1
Female	217	70.9
Semester		
First semester	142	46.4
Second semester	164	53.6
Past Experience		
No	33	10.8
Yes	273	89.2

Table 2 shows distribution of the studied students according to their beliefs about blended learning. This table shows that more than half (60.8%) and half (50%) respectively of students indicated their agreement that the blended learning of Community Health Nursing (CHNg) course was convenient, and interesting but more than one third of them (44.8%, 42.2%, 38.9%, and 38.2% respectively) indicated their disagreement that the blended learning of CHNg course was

entirely within their control, compatible with the way they like to learn, enjoyable, and fits well with their life style. Also, the table shows that more than one third of the studied students (38.5%, 37.9%) indicated their agreement that blended course require more time to study than face–to-face course, and prefered blended course than face–to-face course respectively.

Table 3 shows distribution of the studied students according to their perception of information quality of community health nursing blended learning course. The Table reveals that more than half (53%) and more than one third of students (47.1%, 46.1%, 37.6% and 37.5%) respectively indicated their agreement that the blended learning of CHNg course provided them with correct information, good information (support the course goal), relevant information, appropriate information format and easy information to understand. Regarding students' perception about the overall information quality of blended learning of CHNg course more than one third of students (39.5%) were neither disagree nor agree regarding information quality of the course.

Table 4 shows distribution of the studied students according to their perception of usability of community health nursing blended learning course. The table shows that more than half (55.9% and 60.5%) and more than one third of students (46.8%, 43.8%, and 32.5%) respectively disagree and strongly disagree about the statements of usability of the blended learning of CHNg course; the site easy to use, had a fast browsing speed, easy to navigate (can be used anywhere), conveys a sense of competency and the design was appropriate for the type of online learning site. Regarding students' perception about the overall usability of blended learning of CHNg course, slightly less than half (43.5%) of students were neither disagree nor agree regarding usability of the course.

Table 5 shows distribution of the studied students according to their perception of service interaction quality of community health nursing blended learning course. The table shows that more than one third of students (40.8%, 42.9%, and 38.8%) respectively indicated their agreement about the service interaction quality of the blended learning of CHNg course as they had found that the course had good reputation, secures personal information and creates a sense of personalization. while more than one third of them (39.9%, 37.9% and 37.6%) respectively indicated their disagreement that the blended learning of CHNg course makes student feel connected in, interaction, conveys a sense of community and express their needs easily with the university. More than one third of the students (41.8%) were neither disagree and nor agree regarding the overall service interaction quality of the course.

Table 2. Distribution of the studied students according to their beliefs about community health nursing blended learning course

Variables	Studied students (n = 306)									
	Strongly agree		Agree		Neither disagree nor agree		Disagree		Strongly disagree	
	No	%	No	%	No	%	No	%	No	%
Blended CHNg learning course is interesting.	28	9.2	125	40.8	62	20.3	77	25.2	14	4.6
Blended CHNg learning course is enjoyable.	17	5.6	97	31.7	73	23.9	91	29.7	28	9.2
Blended CHNg learning course is convenient.	93	30.4	93	30.4	64	20.9	85	27.8	41	13.4
I can save time by taking blended CHNg courses.	29	9.5	78	25.5	68	22.2	86	28.1	45	14.7
Blended CHNg learning course increases my productivity.	17	5.6	92	30.1	91	29.7	71	23.2	35	11.4
Blended CHNg learning course is compatible with the way I like to learn.	19	6.2	77	25.2	81	26.5	92	30.1	37	12.1
Blended CHNg learning course fits well with my life style.	15	4.9	83	27.1	91	29.7	78	25.5	39	12.7
I expect to be proficient in using E-learning.	29	9.5	86	28.1	87	28.4	60	19.6	44	14.4
I would feel confident that I can use E-learning course.	20	6.5	88	28.8	88	28.8	67	21.9	43	14.1
I can use E-learning perfectly.	48	15.7	102	33.3	65	21.2	65	21.2	26	8.5
Using E- learning is entirely within my control.	17	5.6	69	22.5	83	27.1	96	31.4	41	13.4
I have the resources, knowledge, and ability to use blended learning.	17	5.6	82	26.8	87	28.4	91	29.7	29	9.5
I learn more in blended CHNg course than in face-to face courses.	14	4.6	84	27.5	90	29.4	91	29.7	27	8.8
I prefer blended course to face to face courses.	25	8.2	91	29.7	70	22.9	86	28.1	34	11.1
Blended course require more study time than face-to –face course.	35	11.4	83	27.1	86	28.1	64	20.9	38	12.4

Table 3. Distribution of the studied students according to their perception of information quality of community health nursing blended learning course

Variables	Studied students (n = 306)									
	Strongly agree		Agree		Neither disagree nor agree		Disagree		Strongly disagree	
	No	%	No	%	No	%	No	%	No	%
Blended learning provide me with										
Correct information	47	15.4	115	37.6	83	27.1	40	13.1	21	6.9
Good information (supporting the course goal)	21	6.9	123	40.2	83	27.1	61	19.9	18	5.9
Timely information	33	10.8	108	35.3	71	23.2	66	21.6	28	9.2
Relevant Information (enough for me to master course content)	16	5.2	109	35.6	75	24.5	81	26.5	25	8.2
Easy information to understand	20	6.5	95	31.0	94	30.7	65	21.2	32	10.5
The right level of detail	23	7.5	75	24.5	73	23.9	104	34.0	31	10.1
Appropriate information format	18	5.9	97	31.7	91	29.7	68	22.2	32	10.5
Overall information quality	20	6.5	86	28.1	121	39.5	55	18.0	24	7.8

Table 4. Distribution of the studied students according to their perception of usability of community health nursing blended learning course

Variables	Studied students (n = 306)									
	Strongly agree		Agree		Neither disagree nor agree		Disagree		Strongly disagree	
	No	%	No	%	No	%	No	%	No	%
I find the site easy to learn.	32	10.5	82	26.8	70	22.9	96	31.4	26	8.5
My interaction with the site is clear and understandable.	13	4.2	86	28.1	68	22.2	112	36.6	25	8.2
I find the site easy to navigate (can be used anywhere).	13	4.2	71	23.2	79	25.8	111	36.3	32	10.5
I find the site easy to use.	18	5.9	69	22.5	48	15.7	130	42.5	41	13.4
The site has an attractive appearance.	15	4.9	96	31.4	66	21.6	107	35.0	22	7.2
The site has a fast browsing speed.	14	4.6	57	18.6	50	16.3	108	35.3	77	25.2
The design is appropriate for the type of online learning site.	9	2.9	87	28.4	80	26.1	97	31.7	33	10.8
The site conveys a sense of competency.	18	5.9	57	18.6	97	31.7	99	32.4	35	11.4
The site creates a positive experience for me.	20	6.5	83	27.1	76	24.8	97	31.7	30	9.8
The overall usability	11	3.6	62	20.3	133	43.5	59	19.3	41	13.4

Table 5. Distribution of the studied students according to their perception of service interaction quality of community health nursing blended learning course

Variables	Studied students (n = 306)									
	Strongly agree		Agree		Neither disagree nor agree		Disagree		Strongly disagree	
	No	%	No	%	No	%	No	%	No	%
Community health nursing blended learning course										
Has a good reputation	44	14.4	82	26.8	73	23.9	90	29.4	17	5.6
Makes me feel connected in interaction	20	6.5	102	33.3	62	20.3	101	33.0	21	6.9
Secures personal information	28	9.2	103	33.7	75	24.5	82	26.8	18	5.9
Creates a sense of personalization	24	7.8	95	31.0	88	28.8	71	23.2	28	9.2
Conveys a sense of community	22	7.2	83	27.1	85	27.8	82	26.8	34	11.1
Makes me express my needs easily with the university	18	5.9	81	26.5	92	30.1	75	24.5	40	13.1
Service and instruction will be delivered as promised	31	10.1	91	29.7	70	22.9	92	30.1	22	7.2
Overall service interaction quality	7	2.3	77	25.2	128	41.8	72	23.5	22	7.2

Table 6 shows distribution of the studied students according to their perception of instructor interaction quality of community health nursing blended learning course. The Table reveals that 41.5%, 39.2%, 37.6% and 37.2% of the studied students indicated their disagreement about the statements of instructor interaction quality of the blended learning of CHNg course as it was easy to get in touch with the instructor, the instructor frequently offered opinions to students, the instructor had a high level of experience in the implementation of the online course and the instructor frequently asked the students questions. While only 30.4% of them agree and strongly agree about the overall instructor interaction quality of the blended learning of CHN course.

Table 7 shows distribution of the studied students according

to their perception of satisfaction of community health nursing blended learning course. The Table shows that about two fifths of the studied students (43.8%, 42.8%, 40.9%, 40.8% and 40.5% respectively) disagree and strongly disagree about their perception of satisfaction statements of blended learning of CHNg course; generally they were sure about the quality of CHNg blended learning course presented by their faculty, overall, very satisfied with the CHNg blended learning course presented by their department, blended learning is best than they were expected, the quality of CHNg blended learning course is excellent and their experience with the blended learning course is best than expected. Slightly less than half (42.8%) of them were neither disagree nor agree regarding their overall satisfaction of the course.

Table 6. Distribution of the studied students according to their perception of instructor interaction quality of community health nursing blended learning course

Variables	Studied students (n = 306)									
	Strongly agree		Agree		Neither disagree nor agree		Disagree		Strongly disagree	
	No	%	No	%	No	%	No	%	No	%
It was easy to get in touch with the Instructor.	39	12.7	69	22.5	71	23.2	94	30.7	33	10.8
The instructor had a high level of expertise in the implementation of the blended course.	32	10.5	81	26.5	78	25.5	79	25.8	36	11.8
The instructor gave fast feedback via a variety of methods.	38	12.4	77	25.2	89	29.1	82	26.8	20	6.5
The instructor supported and counseled me with regard to my learning processes.	23	7.5	82	26.8	88	28.8	90	29.4	23	7.5
The instructor had a low level of personal contact with us.	38	12.4	72	23.5	71	23.2	101	33.0	24	7.8
The instructor frequently offered opinions to students.	34	11.1	80	26.1	72	23.5	93	30.4	27	8.8
The instructor frequently asked the students questions.	41	13.4	73	23.9	78	25.5	95	31.0	19	6.2
Overall instructor interaction quality.	16	5.2	77	25.2	110	35.9	75	24.5	28	9.2

Table 8 shows distribution of the studied students according to their perception of perceived usefulness of community health nursing blended learning course. The table shows that 45.1%, 42.1%, 39.8% and 39.2% of the studied students

respectively indicated their disagreement about perceived usefulness statements of CHNg blended learning course; improves the skills I need for my career, improves my learning performance, can increase my learning effectiveness and de-

velops my skills in expressing myself verbally and in writing. About one quarter (24.5%) of them indicated their agreement about the overall perceived usefulness of CHNg blended learning course.

Table 7. Distribution of the studied students according to their perception of satisfaction of community health nursing blended learning course

Variables	Studied students (n = 306)									
	Strongly agree		Agree		Neither disagree nor agree		Disagree		Strongly disagree	
	No	%	No	%	No	%	No	%	No	%
My experience with the E-learning course is best than I was expected.	36	11.8	62	20.3	81	26.5	95	31.0	32	10.5
Blended learning is best than I was expected.	20	6.5	72	23.5	89	29.1	85	27.8	40	13.1
Overall, most of my expectations with the E-learning were confirmed.	34	11.1	68	22.2	82	26.8	88	28.8	34	11.1
CHNg blended learning course is the best than others.	17	5.6	79	25.8	88	28.8	83	27.1	39	12.7
I am generally satisfied with the quality of CHN blended learning course in our department.	28	9.2	65	21.2	92	30.1	86	28.1	35	11.4
I feel I am getting my money's worth from the CHNg blended learning course.	25	8.2	71	23.2	77	25.2	87	28.4	46	15.0
The quality of CHN blended learning course is excellent.	19	6.2	77	25.2	85	27.8	98	32.0	27	8.8
Overall, I am very satisfied with the CHNg blended learning course presented by my department.	18	5.9	61	19.9	96	31.4	89	29.1	42	13.7
Generally I'm sure about the quality of CHNg blended learning course presented by my faculty.	20	6.5	84	27.5	68	22.2	98	32.0	36	11.8
Overall blended learning satisfaction.	7	2.3	81	26.5	131	42.8	62	20.2	25	8.2

Table 8. Distribution of the studied students according to their perception of perceived usefulness of community health nursing blended learning course

Variables	Studied students (n = 306)									
	Strongly agree		Agree		Neither disagree nor agree		Disagree		Strongly disagree	
	No	%	No	%	No	%	No	%	No	%
Community health nursing blended learning course										
Develop a clearer idea of my future career plans	31	10.1	82	26.8	89	29.1	87	28.4	17	5.6
Develop my skills in expressing myself verbally and in writing.	23	7.5	81	26.5	82	26.8	90	29.4	30	9.8
Develop skills needed to get a better job	29	9.5	72	23.5	97	31.7	73	23.9	35	11.4
Improve the skills I need for my career	18	5.9	68	22.2	82	26.8	105	34.3	33	10.8
Strengthen my basic nursing skills.	33	10.8	84	27.5	62	20.3	90	29.4	37	12.1
Increase my overall knowledge of CHN	28	9.2	77	25.2	83	27.1	82	26.8	36	11.8
Increase my overall knowledge of nursing education	30	9.8	70	22.9	89	29.1	85	27.8	32	10.5
Improve my learning performance	24	7.8	82	26.8	71	23.2	102	33.3	27	8.8
Can increase my learning effectiveness.	26	8.5	89	29.1	69	22.5	91	29.7	31	10.1
I find blended learning service to be useful to me.	27	8.8	89	29.1	72	23.5	74	24.2	44	14.4
Overall perceived usefulness	12	3.9	63	20.6	125	40.8	70	22.9	36	11.8

Table 9 shows distribution of the studied students according to their loyalty to community health nursing blended learning course. The Table shows that 40.2%, and 39.2% of the studied students stated their disagreement to recommend CHNg blended learning course to their colleague, or may take other blended learning course that provided in the faculty respectively compared to 38.9% of them who wished that CHNg blended learning course sill available to them later on.

Table 9. Distribution of the studied students according to their loyalty to community health nursing blended learning course

Variables	Studied students (n = 306)									
	Strongly agree		Agree		Neither disagree nor agree		Disagree		Strongly disagree	
	No	%	No	%	No	%	No	%	No	%
I am likely to take an blended learning course again from the faculty courses if it available to me	49	16.0	62	20.3	87	28.4	79	25.8	29	9.5
May take other blended learning course that provided in the faculty	17	5.6	79	25.8	90	29.4	81	26.5	39	12.7
I will recommend CHN blended learning course to my colleague	32	10.5	76	24.8	75	24.5	83	27.1	40	13.1
I will say positive things of CHN blended course to my colleague	16	5.2	90	29.4	89	29.1	71	23.2	40	13.1
I wish that CHN blended learning course sill available to me later on	35	11.4	84	27.5	70	22.9	75	24.5	42	13.7

Table 10 shows correlation between the overall usability, overall information quality, overall service interaction quality, overall instructor interaction quality, overall perceived usefulness and overall blended learning satisfaction. The Table shows that there was a significant relationship found between the overall usability, overall information quality, overall service interaction quality, overall instructor interaction quality, overall perceived usefulness and overall blended learning satisfaction ($p < .05$).

Table 10. Correlation between the overall usability, overall information quality, overall service interaction quality, overall instructor interaction quality and the overall perceived usefulness

Variables	Overall usability	Overall information quality	Overall service interaction quality	Overall instructor interaction quality	Overall perceived usefulness
	r	r	r	r	r
	P	P	P	P	P
Overall information quality	0.645 .000*	-	-	-	-
Overall service interaction quality	0.658 .0000*	0.694 .000*	-	-	-
Overall instructor interaction quality	0.555 .000*	0.532 .000*	0530 .000*	-	-
Overall perceived usefulness	0.691 .000*	0.543 .000*	0.658 .000*	0.593 .000*	-
Overall blended learning satisfaction	0.169 .003*	0.173 .002*	0.188 .001*	0.228 .000*	0.202 .000*

*Significant at level $P < .05$

4. DISCUSSION

Blended courses and E-learning seem to be the upcoming trend. Blended courses have been spreading worldwide including Egyptian universities and its faculties. In general, the present study suggested positive correlation between all variables related to students perception of community health nursing blended course including their believes, perceived usability, usefulness, information quality, service interaction, course satisfaction, and course loyalty. Each of these variables is affected by the quality of others. These results is in agreement with the findings of Owston et al. (2013) as they reported that there was a strong relationship was found between students perceptions and course grades.[42]

Although a high percentage of students agree with most of the information quality statements and reported that the community health nursing blended course had good reputation and create a sense of personalization, a high percentage of them indicated their disagreement with some statements of course usability and all statements of course usefulness. This may be related to low internet speed and connectivity as stated by students, as internet did not permit them to get benefit of e-learning course that support face to face learning. Other justification may be related to poor skills of students related to ICT that enable them to use and get benefit of blended-courses. In addition, the user names and passwords that allows students to access the E-course site provided to them too late, nearly after the middle of the educational demister. This result is contradicted with the results of Tagoe (2012) as it revealed that a higher number of students agree with all usefulness and usability statements. The results of Tagoe (2012) may be attributed to ownership of high percentage of students to computer/laptop and can use internet several times/day since 1-5 years.[2]

Regarding students' believe of blended community health nursing course, they indicated their agreement with some statements and disagreement with other statements. This disagreement may be justified as the blended learning is a new approach in our faculty, and nursing students fear of or refuse the change of traditional learning mode by blended learning. This is evidenced by the disagreement of students that bended community health nursing course is compatible with the way they learn and disagree that it fit with their life style. Our findings are supported by the results of Elgamal and Abd El-Aziz (2011) during their study to assess the perception of students regarding e-learning implementation in Egyptian universities as they reported that students' believes make them prefer traditional learning mode to avoid uncertainty.[43] On the other hand, the result of Brook I and Beauchamp (2015) is contradicted with the findings of the present study as they reported that the blended approach to learning at university would be most suitable and preferred by those students surveyed during their study.[7] These contradicted results may be attributed to cultural differences of the studied students in each study.

Literature reported that students show greater satisfaction in

blended courses than in traditional lectures.[44] The current study revealed the disagreement of the studied students about some statements of course satisfaction, which attributed to poor instructor interaction with them as they reported. This result may be related to poor instructors' experience in teaching with E-courses, and insufficient in-service training for them about how to manage blended learning. This result is agreement with the results in a study by Svanum and Aigner (2011), who found that students who were motivated and invested their effort in the course were more likely to succeed and to express higher satisfaction with the course.[45] Other studies found that successful students are more likely to attribute their satisfaction with the course to the amount and quality of faculty's interaction and support they receive during the course.[46, 47] Also, Lo (2010) found that students in the blended courses who were motivated and gratified with the instructor's support and course policies tended to perceive their learning outcomes higher.[46] Therefore, it is so important to evaluate students' perception toward any implemented blended learning course including CHNg course to do a correction action plan if needed to help students get benefit from it as much as possible.

5. CONCLUSION AND RECOMMENDATION

It can be concluded that although studied students had good beliefs about CHNg blended course, about one third of them not agree about some of statements of its usability and usefulness, loyalty, service interaction and instructor interaction which attributed mainly to the low browsing speed of the online site.

Recommendation

Faculty instructor and the responsible person in ICT unit in the university have to do great efforts to help students to use and get benefit of CHNg blended course. Technical efforts from E-learning center in the university are needed to increase browsing speed of the online site. Instructor's knowledge and command on information technology skills and perceptions towards e-learning should be accessed prior to implement any new teaching tools of information technology.

CONFLICTS OF INTEREST DISCLOSURE

The authors declare that there is no conflict of interest.

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