

Effect of Blended Learning on Newly Nursing Student's Outcomes Regarding New Trends in Nursing Subject at Ain Shams University

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Abstract Blended learning refers to a method of instruction that utilizes two or more complementary approaches to teach the same material. By combining classroom lectures, activities, discussions, and/or web-based modules.

Aim: Examine the effect of blended learning on newly nursing student's outcomes regarding new trends in nursing subject at Ain Shams University. **Hypothesis:** The Students who will be exposed to blended learning (Study group) will have improved Outcomes compared to the Students in the control group who will be exposed to lecture regarding new trends in nursing subject. **Design:** A quasi experimental study design was utilized to accomplish the aim of this study. **Setting:** Faculty of Nursing Ain Shams University Cairo Egypt. **Sample:** Two purposive samples of all available first year students' from the previously mentioned study setting in 2012/2013 and 2013/2014 academic years as control group and study group respectively. Students were included in this study were from both gender, and willing to participate in the study. **Tools for data collection:** A self-administered structured questionnaire to assess demographic characteristics and learning needs, student's satisfaction questionnaire sheet, student's academic achievement sheet. **Results:** There was improvement regarding satisfactory level of achievement and decrease in the percent of poor and very poor of blended learning group with no statistical difference between two groups. There was improvement in student's satisfaction of blended learning group regarding the course and teaching method with highly statistical significant difference between two groups. **Conclusions:** blended learning improved newly nursing student's Outcomes both academic achievement and student's satisfaction than lecture regarding new trends in nursing subject at Ain Shams University. **Recommendations:** blended learning can be used to facilitate nursing education, more researches done to determine durability rate of the information of this methods.

Keywords: blended learning, newly nursing students, student's outcomes

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1. Introduction

Nursing educators continually seek effective teaching strategies to enhance student's learning and promote the ability to problem solving [1]. The Internet technologies are one of the fastest growing and the most penetrated technologies in the world [2]. In more recent years nursing education is rapidly advancing the use of technology such as e-learning in both the clinical simulation and theoretical courses [3].

The newly nursing students are subjected to different kinds of stressors the main sources of stress are linking them to clinical, academic, social and interpersonal areas [4]. Students entering university from secondary schools have lacking confidence in themselves and often need to be encouraged to learn how to learn. Teaching strategies reflect the diverse nature of the student population and prepare nursing students with the knowledge to be safe,

competent, beginning practitioners who are 'work ready' [5].

Concern for using alternate teaching-learning methods arise when considering the complexity of nursing education, the need to respond to a continuously changing health care environment, and the need to ensure safe and effective patient care [6,7].

According to Bodie et al. [8] blended learning refers to a method of instruction that utilizes two or more complementary approaches to teach the same material. By combining classroom lectures, activities, discussions, and/or web-based modules. Ruiz et al. [9] argued that learners would benefit more from a blended learning model, which incorporates traditional style classroom lectures with e-learning element than from a sudden switch to e-learning.

Blended learning is becoming an increasingly popular form e-learning, particularly suitable for use in the process of transition from traditional forms of learning and

teaching towards e-learning [10]. The application of blended learning strategies could be the direct cause of improved passing rate of examinations within a group of students [11]. Blended learning was believed to improve student learning by offering more interaction between teachers, students and technology and became a preferred model for course delivery [12,13].

E-learning has many advantages, including increased accessibility to educational materials (at a time and place chosen by learners), personalized instruction (to tailor education to individual learners' needs), and standardization of content [14].

However, more criticisms voiced about e-learning are that learners need to have access to the internet and e-mail. Slow internet connections or older computers may make accessing the course materials difficult—this may cause the learners to get frustrated and give up [15]. Another criticism about e-learning is that students may feel isolated from the instructor. When instructors and other learners are not meeting face to face, it is possible to misinterpret what was meant [16].

Educators also offer curricula in combinative environments. This approach to learning is referred to as blended learning and is a combination of cyber and traditional environments. According to Allen et al [17] blended learning was believed to improve student learning by offering more interaction between teachers, students, and technology and became a preferred model for course delivery.

According to Dziuban et al [18] blended courses have the potential to increase student learning outcomes while the online courses lowering attrition rates and increased dropout rates in distance learning.

The retention of students in an online learning environment can sometimes be low. Also the non-completion rates in an online learning is more than the traditional face-to-face environment [19]. This issue can lead to unsatisfied faculty and student learners. This will lead higher education institutions back to the drawing board to learn how to incorporate online learning environments as an effective learning tool [20].

Student satisfaction was shown to improve learner studies and contribute to retention. Dissatisfied learners can hardly do well in their studies, and this leads to poor performance. Educators should integrate variables affecting learner satisfaction to increase learner persistence. Research showed that learner satisfaction affected students' learning and led to learner completion [21,22].

The benefits of engaging in a blended environment can assist in the acceptance of new technologies and enhance the experience of students [23]. Also engaging in this environment can support students in their application of information, communication and technologies. The need for students to engage in these technological platforms is vital. Supporting students in this is seen as helping gain lifelong skills which they may transfer into the workplace [24].

1.1. Significance of the Study

The main goals of nursing education are to equip students and graduate nurses with the necessary knowledge and skills and to provide them with the

strategies for their application in practice. New and advancing technologies provide enormous opportunities for curriculum designers, teachers, students and patients to engage in exciting and innovative learning experiences. As with any educational intervention, care must be taken to ensure that the availability of technology enhances learning and is not just technology for technology's sake [25]. When used appropriately in education, interactive technological strategies have been identified as enriching student teaching [26].

Furthermore, is the effect of blended learning on student outcomes, and evidence supports the supposition that technology-enhanced teaching used in the fields of health and science positively influences students' learning outcomes [27,28]. Indeed, in a study of a blended learning course students had higher final grades compared to students studying the same course in a traditional manner [29]. Also, another group of students studying a cardiovascular element of a course demonstrated significant improvement in their performance after using the technological tools that were made available to them via a website [26]. Similar improvements in performance by both on-campus and distance-learning students undertaking e-learning anatomy courses suggests that this method can be used successfully to teach this subject [30,31].

1.2. Aim

The aim of this study was to examine the effect of blended learning on newly nursing student's outcomes both academic achievement and student's satisfaction regarding new trends in nursing subject at Ain Shams University.

1.3. Hypothesis

It was hypothesized that the Students who will be exposed to blended learning (Study group) will have improved Outcomes both academic achievement and student's satisfaction compared to the students in the control group who will be exposed to lecture regarding new trends in nursing subject.

2. Subjects and Methods

2.1. Research Design

A quasi experimental study design was utilized to accomplish the aim of this study.

2.2. Setting

The study was conducted in Faculty of Nursing Ain Shams University Cairo Egypt.

2.3. Sample

Two purposive samples of all available first year students' from the previously mentioned study setting in 2012/2013 and 2013/2014 academic years as control group and study group respectively. Control group exposed to traditional teaching method (Lecture) while the study group exposed to blended learning. Students were

included in this study were from both gender, and willing to participate in the study.

2.4. Tools for Data Collection

Three different tools were used to collect data pertinent for this study. They included the following:

2.4.1. Tool 1

A self-administered structured questionnaire to assess demographic characteristics and learning needs, it was developed by researcher, **The first part** was concerned with characteristics of the students such as age, gender, residence place and studying this course before. **The second part** was concerned with learning needs assessment of the students such as language's skills difficulties, computer's skills difficulties internet's skills difficulties and method of teaching that preferred by students. Validation by a group of five experts at Faculty of Nursing, Ain Shams University was done. Testing reliability was done.

2.4.2. Tool 2

Student's satisfaction questionnaire sheet, it was developed by researcher, **first part** was concerned with: Student's satisfaction regarding learning of this course such as develop skills in career, develop knowledge, develop ability to solve problems, to criticize, to teamwork, to be self-independence to communicate opinions to others, analytical abilities, validity and reliability were done. **Second part** was concerned with student's satisfaction regarding method of teaching such as encouraged effective participation, enabled deep understanding of difficult concepts, contributed to keep time, develop ability to acquire knowledge, increased focus and interpretation of observation, increased ability to self-learning and increased ability to understand of the courses. It contain five categories; a strongly agree, agree, don't know, disagree, strongly disagree. Validation by a group of five experts in medical surgical nursing department at Faculty of Nursing, Ain Shams University was done. Testing reliability was done.

2.4.3. Tool 3

Academic achievement sheet. It was developed by researcher. Total scores are 100 marks, it contain five categories; excellent, very good, good, fair, poor and very poor. Final exam of New trends in nursing subject in 2012/2013 academic year was consisted of (50) MCQ questions with score (50) marks, (30) Essay question with score (30) marks and (20) Matching questions with score (20) marks. Also final exam of New trends in nursing subject in 2013/2014 academic year was consisted (50) MCQ questions with score (50) marks, (30) Essay question with score (30) marks and (20) Matching questions with score (20) marks. Validation by a group of five experts in medical surgical nursing department at Faculty of Nursing, Ain Shams University was done. Testing reliability was done.

2.5. Pilot Study

The pilot study was conducted on 10 students to test the clarity, feasibility and applicability of the determent tools.

Based on the result of the pilot study, no modifications were done. The students who included in the pilot study were included in study sample.

Procedures of the study: The current study was carried out on three phases, preparatory phase, implementation phase and evaluation phase.

2.6. Phase I: Preparatory and Planning phase

Head of Medical Surgical Nursing Department gave permission to perform the study. Confidentiality and Voluntary nature of participation from students was insured and purpose of the study was explained. The web sites were determined and CD was prepared by the researchers for the students who have not availability of net. CD was revised by a group of five expertise in medical surgical nursing department at faculty of nursing at Ain Shams University for the content validity. Based on the opinion of expertise suitable modifications were done and then the final forms were developed.

2.7. Phase 2: Implementation Phase

Assessment of demographic characteristics, learning needs, student's satisfaction regarding this course and student's satisfaction regarding method of teaching for the first year students in the 2012/2013 academic year (control group) then assessment of demographic characteristics, learning needs, student's satisfaction for the first year students in the 2013/2014 academic year (study group) before implementation of blended learning.

Implementation of blended learning was done through two main parts lecture and e-learning;

Lecture covered the knowledge level of the same content that taught to the control group (assertiveness, empowerment, decision making, critical thinking, concept of change, evidence based practice, nursing informatics, clinical pathway and professional standard in nursing practice. **E-learning** focused on analysis, synthesis and evaluation level of knowledge for the same content. Students were informed with web sites and CD was given to each student to use it in case of unavailability of net.

2.8. Evaluation Phase

The evaluation phase was emphasized on examine the effect of blended learning on newly nursing student's outcomes booth academic achievement and student's satisfaction regarding new trends in nursing subject at Ain Shams University in order to compare between the results pre, and post intervention to determine the level of improvement in student's outcomes

Statistical design: data entry and analysis were done using the Statistical Package for Social Science (SPSS) version 16. Data were presented in the tables and charts using actual numbers and percentages. Appropriate statistical methods were applied. Regarding P value, it was considered that: non-significant (NS) if $P > 0.05$, Significant (S) if $P < 0.05$, Highly Significant (HS) if $P < 0.01$.

3. Results

The results of this study answered the research questions through three main parts;

- Demographic characteristics and Learning needs of lecture and blended learning groups in the first part.
- Assessment of academic achievement and students' satisfaction of lecture and blended learning groups in the second part.
- Correlation between student's satisfaction and Demographic characteristics, learning needs and academic achievement of two groups.

Table 1. Demographic characteristics of lecture and blended learning groups

Parameters	Lecture group N=(200)		blended learning group n=(191)		X ²	P value
	No	%	No	%		
Mean and standard deviation of age	18±0.64		18.77±0.69		T -0.33-	0.740
Sex						
Male	58	29	48	25.1	0.74	0.22
Female	142	71	143	74.9		
Residence place						
Urban	130	65	126	66	0.041	0.46
Rural	70	35	65	34		
Studying course last year						
Yes	54	27	58	30.4	0.54	0.26
No	146	73	133	69.6		

Table 1 shows that mean age of students in both lecture and blended learning groups was 18±0.64 and 18.77±0.69 respectively, 71% and 74.9% of them were female, 65% and 66% of them of living in urban areas, 27% and 30.4%

were studying this course in the last year. This table also shows that there were no statistical significant differences between two groups regarding demographic characteristics.

Table 2. Learning needs assessment of lecture and blended learning groups

Parameters	Lecture group N=(200)		blended learning group n=(191)		X ²	P value
	No	%	No	%		
Language's skills difficulties						
Yes	24	12	28	14.7	0.59	0.26
No	176	88	163	85.3		
Computer's skills difficulties	8	33.3	11	39.3	0.197	0.43
Internet's skills difficulties	16	66.7	17	60.7		
Method of teaching that preferred by students						
Lecture	25	14	24	13	0.74	0.22
E-learning	33	15	24	13		
Booth Lecture and e-learning	142	71	143	74		

Table 2 shows that 12% and 14.7% of lecture and blended learning groups had Language's skills difficulties respectively, 33.3% and 39.3% of them had Computer's skills difficulties respectively, and 66.7% and 60.7% of them had Internet's skills difficulties respectively, 14% and 13% of them preferred lecture while 15% and 13% of

them preferred e-learning, 71% and 74% of lecture and blended learning groups preferred booth lecture and e-learning together. There were no statistical significant differences between two groups regarding learning needs assessment.

Table 3. Academic Achievement assessment of lecture and blended learning groups

Parameters	Lecture group N=(201)		blended learning group n=(242)		X ²	P value
	No	%	No	%		
Academic Achievement Excellent to good	107	53.2	127	52.5	2.92	0.22
Satisfactory	47	23.4	71	29.3	2.92	0.22
Poor and Very poor	47	23.4	44	18.2	2.92	0.22

Regarding academic achievement, Table 3 shows that 53.2% and 52.5% of students in lecture and blended learning groups had excellent to good respectively, while there was improvement regarding satisfactory achievement whereas 23.4% and 29.3% of them had

satisfactory achievement respectively, also it shows that decrease in the percent of poor and very poor whereas 23.4% and 18.2% of them had poor and very poor respectively, with no statistical difference between two groups.

Table 4. Student's satisfaction regarding Learning of this course

Course satisfaction	Lecture group N=(200)		blended learning group n=(191)		Test X ²	P value
	No	%	No	%		
Develop skills in career	97	48.5	128	67	13.71	0.000
Developed ability to solve problems	91	45.5	127	66.5	17.45	0.000
Developed ability to communicate opinions to others	95	47.5	138	72.3	24.85	0.000
Develop analytical abilities	67	33.5	98	51.3	12.70	0.000
Grown abilities to criticize	94	47	112	58.6	5.30	0.014
Develop knowledge in a variety of topics	95	47.5	146	76.4	34.60	0.000
Improve ability to teamwork.	94	47	143	74.9	31.78	0.000
Develop ability to be self-independence	67	33.5	137	71.7	57.21	0.000

Regarding students' satisfaction Table 4 shows that less than half of lecture group was satisfied with learning for this course while more than half of blended learning group were satisfied with this course. This table also shows that

highly statistical significant difference in most items between two groups regarding students' satisfaction with this course.

Table 5. Student's satisfaction regarding method of teaching

Teaching methods satisfaction	Lecture group N=(200)		blended learning group n=(191)		Test X2	P value
	No	%	No	%		
Encouraged effective participation.	98	49	116	60.7	5.42	0.013
Enabled deep understanding of difficult concepts	90	45	125	65.4	16.49	0.000
Contributed to keep time	94	47	117	61.3	7.99	0.003
Develop ability to acquire knowledge	67	33.5	144	75.4	69.01	0.000
Increased interpretation of knowledge	97	48.5	127	66.5	12.92	0.000
Increased ability to self-learning	93	46.5	136	71.2	24.57	0.000
Increased ability of understanding of the courses	93	46.5	131	68.6	19.47	0.000

Regarding student's satisfaction with teaching method, Table 5 shows that less than half of a lecture group was satisfied with teaching method for this course while nearly two-thirds of blended learning group were satisfied with

teaching method for this course. This table also shows highly statistical significant difference in most items between two groups regarding student's satisfaction with teaching method for this course.

Table 6. Student satisfaction difference between lecture and blended learning groups

Parameters	Lecture group N=(200)		blended learning group n=(191)		Test X2	P value
	No	%	No	%		
student's satisfaction with learning of this course:						
Satisfied	22	11	108	56.5	91.31	0.000
Unsatisfied	178	89	83	43.5		
Mean and SD	11.74±2.71		14.81±3.84			
student's satisfaction with teaching method						
Satisfied	43	21.5	108	56.5	50.61	0.000
Unsatisfied	157	78.5	83	43.5		
Mean and SD	10.40±2.51		12.87±3.26			
Total student's satisfaction						
Satisfied	41	20.5	116	60.7	65.81	0.000
Unsatisfied	159	79.5	75	39.3		
Mean and SD	22.14±5.20		27.68±6.55			

Table 6 shows that 11% and 56.5% of students in lecture and blended learning groups were satisfied regarding learning of this course, mean score 11.74±2.71 and 14.81±3.84 respectively. Regarding teaching method satisfaction, 21.5% and 56.5% of them were satisfied, mean score 10.40±2.51 and 12.87±3.26 respectively. Also

this table shows that 20.5% and 60.7% of them were satisfied regarding total satisfaction of this course 22.14±5.20 and 27.68±6.55 respectively. Also it shows that highly statistical significant difference in all items between two groups p <0.000.

Table 7. Correlation between student's satisfaction and Demographic characteristics, learning needs and academic achievement of two groups

Items	satisfaction of Lecture group n=(200)		satisfaction of blended learning group n=(191)	
	R	p- value	R	p- value
Academic achievement	0.230	0.001	0.212	0.003
Age	0.023	0.741	0.095	0.189
Sex	-0.117-	0.100	-0.063-	0.387
Residence place	0.060	0.397	-0.1380	0.058
Study course before	-0.105-	0.138	0.073	0.317
Learning needs	0.037	0.606	0.157	0.030

Table 7 shows that positive correlation between student's satisfaction and academic achievement in lecture and blended learning group sp =0.001 and 0.003 respectively, also it shows that positive correlation between student's satisfaction and learning difficulties in both groups p = 0.030. Also This table shows that positive correlation between student's satisfaction and age in lecture group P=0.02 while it shows that negative correlation between student's satisfaction and sex in booth groups.

- Correlation between student's satisfaction and Demographic characteristics, learning needs and academic achievement of two groups in the third part.

4. Discussion

The discussion of this study covered three main parts;

- Demographic characteristics and Learning needs of lecture and blended learning groups in the first part.
- Assessment of academic achievement and students' satisfaction with lecture and blended learning groups in the second part.

4.1. Aim

The aim of this study was to examine the effect of blended learning on newly nursing student's outcomes both academic achievement and student's satisfaction regarding new trends in nursing subject at Ain Shams University.

4.2. Hypothesis

It was hypothesized that the students who will be exposed to blended learning (Study group) will have improved outcomes booth academic achievement and student's satisfaction compared to the students in the control group who will be exposed to lecture regarding new trends in nursing subject

Blended learning makes an important advancement to learning practice. It is an innovative learning practice since it adopts multiple learning methods and combines both traditional and online learning activities. Other than that, blended learning method continuously changes the ways of learning method and technological infrastructure [32].

4.3. First Part

The result of this study shows that there were no statistical significant differences between two groups regarding demographic characteristics; this might be related to the similar stage of age in the university studying. This finding was in agreement with Sherman et al [33] who found that male/female ratios were comparable in blended and lecture learning groups. Also Sheen et al [34] found that there was no significant difference with participants' age, gender, education, nursing experience, or computer learning experience.

The result of this study shows that the minority of lecture and blended learning groups had language's skills difficulties, less than half of them had computer's skills difficulties, and more than half of them had internet's skills difficulties. The rationale of the previous finding may be due to the age of the participants whereas, younger students had difficulties with online courses. So it is important that the students have the necessary computer skills as they may meet different e-learning systems throughout their careers. This finding was contradicted with HSU and HSIEH [35] who found that more than half of students always using e-mails and internet. While this finding was in agreement with Jokinen and Mikkonen [36] who found that the group included students whose skills were very good, and on the other, some students' skills were very poor. Also Abrami et al [37] found that b-learning (blended) environment, making it more realistic according to the students' learning needs. In this way, the students could be involved in an active and engaging learning process during the courses.

The result of this study shows that minority of lecture and blended learning groups preferred e-learning, while most of lecture and blended learning groups preferred both lecture and e-learning together with no statistical significant differences between two groups. Ruiz et al. [9] argued that learners would benefit more from a blended learning model, which incorporates traditional-style classroom lectures with e-learning element than from a sudden switch to e-learning. This finding was contradicted with HSU and HSIEH [35] who stated that nursing students are generally more comfortable with traditional-style teaching where the teacher takes control of pretty much everything in the classroom, and they have a hard time making the switch to blended learning where they have to play a more active role in the classroom. In addition Twigg [38] who asserted that restricted access to computing facilities can be a major obstacle to successful implementation of the supplemental model of blended or e-learning.

4.4. Second Part

Regarding academic achievement, the result of this study shows that there was improvement regarding satisfactory achievement and decrease in the percent of

poor and very poor in the academic achievement of blended learning group with no statistical difference between two groups. This minimal improvement may be due to the inability of the students in the study group to go to Internet cafes especially those who were residents in rural area and represent nearly one thirds of the studied sample.

Previous finding was in agreement with Yukie and Yoichiro [39] who found that students who attended the blended e-learning classes apparently thought that they had fundamentally achieved the learning objective. This finding also was in agreement with Wakefield et al [40] who found that no significant differences in posttest scores associated with participants' academic achievement. Also Colesca et al [41] found that blended learning was found to have contributed to learners' learning outcome by facilitating their met cognitive development and self-regulatory develop.

In a similar study, Pereira et al. [42] found that introduction of blended learning strategies had resulted in improved learning performance in terms of higher examination turnout, better grades and better exam pass rate among a group of freshmen biology majors taking the course 'human anatomy.' Also Schaber et al. [43] added that proved that both classroom and blended learning formats are effective in enhancing learner's perceived understanding of affective content, although blended learning was proved more effective than classroom learning.

Regarding academic achievement, the result of this study was contradicted with Zhigang [44] who found that Students had a slightly poorer academic achievement in blended learning environment. While Crawford et al [45] found that The nurses who participated in the blended learning course showed an increase in their knowledge in seven domains of knowledge. Also HSU and HSIEH [35] found that students who spent <220 min on the internet achieving more desirable learning outcome. Henderson [46] also found that adopting a blended approach to learning and teaching can have an opportunity to construct a meaningful learning experience and engage in a fundamental course to helping produce knowledgeable critical thinkers who capable of implementing evidence into their practice.

Regarding students' satisfaction the result of this study shows that less than half of lecture group was satisfied with this course while more than half of blended learning group were satisfied with this course with highly statistical significant difference in most items between two groups regarding students' satisfaction. The result of this study was contradicted with Gagnon et al [14] who found that there was no significant difference between groups regarding course's satisfaction (the Control group was slightly more satisfied, but not significantly).

Also Abou Naaj et al [47] stated that Student satisfaction in blended learning is important because it can impact motivation and, therefore, student success and completion rates. Measurement of satisfaction is also valuable to institutions because it can be used to evaluate courses and programs and, to a certain degree, to predict student attrition rates. Also authors added that analysis of data from survey forms has suggested that while blended learning continues to be regarded by most students as less effective, students still preferred face-to-face courses even

though they were satisfied with their grades and performance in blended learning courses. Male students tended to be more satisfied with blended learning than their female counterparts.

Regarding student's satisfaction with teaching method, the result of this study shows that less than half of a lecture group was satisfied with teaching method while nearly two-thirds of blended learning group were satisfied with teaching method with highly statistical significant difference in most items between two groups regarding student's satisfaction with teaching method. The result of this study was in agreement with Sherman et al [33] who found that satisfaction with the method of education was discussed with focus group participants, blended learning participants responded very positively, indicating that the format was beneficial allowing for self-pacing and flexibility, interaction, and repeated access to information. The discussion sessions were considered valuable for clarification and to answer questions. Responses from lecture learners were also positive but less detailed than those of blended learners. Also Bates and Sangrà [48] found that blended learning achieve better learning outcomes and higher levels of satisfaction.

4.5. Third part

The result of this study shows that positive correlation between student's satisfaction and academic achievement in lecture and blended learning groups; also it shows that positive correlation between student's satisfaction and learning difficulties in both groups. Also this table shows that positive correlation between student's satisfaction and age in lecture group while it shows that negative correlation between student's satisfaction and sex in both groups.

This results were in accordance with Melton et al. [49] who compared a group of students' learning achievement and satisfaction with blended learning course delivery and traditional face to-face classroom teaching in a general health course. The result revealed that the students earned significantly higher grades and displayed higher satisfaction levels under a blended learning environment.

The result of this study was contradicted with Reime et al [50] who found that younger students did significantly better than older students in thee-learning group and women did better than men in the lecture group. Also Reime et al [50] found that it is important that the students have the necessary skills as they may meet different e-learning systems throughout their careers. Also D'Souza et al [51] in other study found that the outcomes such as academic achievement measures are influenced by inputs or student characteristics such as gender, age.

5. Conclusion

In summary the result of this study support the hypothesis of this study in which blended learning improve newly nursing students' outcomes both academic achievement and student's satisfaction than lecture regarding new trend in nursing subject at Ain Shams University.

There was improvement regarding satisfactory level of achievement and decrease in the percent of poor and very

poor of blended learning group with no statistical difference between two groups.

There was improvement in student's satisfaction of blended learning group regarding the course and teaching method with highly statistical significant difference between two groups.

Recommendations

Blended learning can be used to facilitate nursing education, more researches done to determine durability rate of the information of this methods.

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