Effect of Blended vs. Traditional Teaching Methods on Nursing Students Academic Stress and Their Achievement at Mansoura University

Awatef Hassan Kassem[1], Eltahra Elsayed Abo Habieb[2],Rania Mohamed Gad El-Bastwese[3]

[1], [2],(Assist.Prof& Lecturer in Nursing Administration Department, Faculty of Nursing, Mansoura University, Egypt)
[3].Lecturer of Community Health Nursing, Faculty of Nursing, Mansoura University, Egypt

ABSTRACT

Background: The fast evolution in the use of technology allows educators to investigate suitable learning environments that integrate online learning with a traditional classroom lecture that provides students diverse learning style as blended learning. These approaches help students improve their performance and academic stress .**Aim:** Examine the Effect of Blended vs. Traditional Teaching Methods on Nursing Students Academic Stress and Their Achievement at Mansoura University. **Design:** Quasi- experimental design was utilized. **Setting:** Faculty of Nursing, Mansoura University**. Subject**: purposive sample of all third level students. Total number of the nursing students enrolled in the first semester of academic year 2018-2019 (n= 309 nursing students) at the Nursing Administration credit course, Study group= 149 and Control group = 160.**Tool of data collection:** Self-administered structured questionnaire, Academic Stress Scale and academic achievement form. **Results:** Mean score of students' perception of course by using blended method was higher than students who learned by traditional method. Also, the mean score of academic stress was higher among students they learned by the traditional method than those learned by the blended method. Achievement alternatively equal in good and very good grades but no failed students whose learning by the blended method. Total academic stress and achievement in the blended group were significant. While total academic stress and achievement at traditional group no significant difference. **Recommendation:** teachers and students requiring specialized training programs to uses computers and the internet and faculty management should take serious steps to enhance the development of teachers and students information technology skills

Keywords: Blended, Traditional, Academic Stress, Achievement. Nursing Students

Introduction

The educational system has been in a transitional stage in recent years, with the continuous development of information and communication technology. To meet these challenges, the needs of students to embrace emerging technologies and explore new ways of achieving the goal of quality education budgets, lack of facilities and face-to-face contact advantages to abandoning conventional methods of information transfer **(Dangwal, 2017).**

So, blended (BL) instruction in higher education emerges as potentially the most influential form of

instruction in education. BL has a range of advantages compared to traditional or completely online courses, such as allowing students to control over learning and helping to encourage innovative and critical thinking, increasing student learning satisfaction, reducing academic stress, and enhancing student learning achievement **(Wei, Shi, Yang, and Liu, 2017).**

BL is a revolutionary idea with the advantages of conventional classroom teaching and online learning, such that instruction takes place in the classroom as well as online. It is important to note that the online aspect becomes an extension of traditional classroom learning, allowing students from different cultures to choose the delivery strategy of their learning content and thus enhance their engagement with the environment **(Khader , 2016).**The goal of BL systems is to promote learning by mixing visual indicators and educational principles. Using simulated environments serve to attract the attention of the participating audience when communicating with theme parties.

In addition, new teaching methods are utilized without compromising the traditional teaching and classrooms attendance. As well as direct classroom contact by using computers, networks, and the internet as a modern communication system **(Alla, 2015)**, and producing computers and local and global networks of data more accessible for learners while teachers'

roles developed as leaders and mentors to their learners concerning computer skills and international information networks. In addition to being creators rather than importers of information; allowing learning to use digital, e-mail, virtual libraries and other internet data sharing software and increase the ability of universities to combine various possibilities with effective methods; and addressing the question of a permanent change in educational material quality **(Obiedat, Nasir Eddeen, Harfoushi, Koury 2014 and Oweisls 2018)**. So this model mixing advantages of online and traditional learning.

Traditional learning is a learning process where both learners and teachers are physically present in the same place at the same time. The process of learning requires direct contact between the educator and the student while the sender here is the educator and the recipient is the student. Face-to-face meeting is the best way to communicate and fix the problem. Universities and other educational institutions to receive the credential should recognize the challenges that come from the learning environment and improve the capacity to address it through the teacher's guidance **(Hua, Goodwin and Weiss 2013and Nguyen, 2015).**

In a traditional learning system, the learner is not only trained or graduated but also acquires experience and skills that support in all phases of life. When working with lecturers and friends from all over the world and

with diverse backgrounds, cultures, and religions, students developing verbal communication skills **(Schulmeister, 2017)**, and the ability to managing time by attending classes on time and place. The teachers reused the contact hours to encourage students while sharing life experience **(Zawacki-Richter et al., 2018)**.

Stress is considered a serious issue among educational institutions which influence students stresses of academic life**(Phillips, Halder and Hasib, 2020)**. Academic stress is defined as the reaction of the body to academic stresses which exceed students' adaptation capacities **(Alsulami et al. 2018).** Several factors contribute to academic stress such as managing time, financial problems, and interaction with lecturers, personal subjective interests, social behavior, and lack of support system in academic culture change, admission process, high parent expectations, and curriculum composed of complex concepts. In addition, inadequate faculty scheduling, unbalanced student-instructor ratio, classroom physical climate, unhealthy student-teacher contact, hard and fast disciplinary laws, too many or complicated tasks, overcrowded lecture halls, teaching methods, unconcerned instructor attitude, and an overemphasis on shortcomings, rather than understanding strengths**(Patel, 2016 and Priya, 2017**).

Consequently, academic achievement as learning awareness or ability creation in curriculum subjects, usually identified by testing marks or grades awarded by teachers, or by both, is an educational outcome. Also is a sign of performance which shows the level at which the student has achieved specific learning goals **(Alamri, 2019)**.

Academic achievement is affected by many factors both internally and externally. Internal factors that are developing active learning skills and stimulated students involving in the teaching-learning process and use shared teaching patterns. Medical teachers should therefore consider the motives and learning principal methods of their students, track their learning in their academic setting, and motivate them to participate in learning **(Nabizadeh, Hajian, Sheikhan and Rafiei 2019).**

While the external factor that affects the academic achievement of nursing students is extracurricular activities. Extracurricular activities are described as activities that nursing students engage in but have no association with academic activities. Furthermore, nursing student academic achievement also is predisposed by financial realities and staff development. Due to the changes of society and requirements of a knowledge-based economy, there is an increasing awareness of what was suitable to succeed in an institution and the workforce in the 21st century **(Eakman, Kinney, Schierl, & Henry, 2019).**

Significant of the study:

Scientific and technological advances, including information technology, are characterized by rapid changes in the present time. It is necessary to keep up with those changes in the education system. Because most academic staff just walks into classrooms holding their yellow notebooks inherited from the previous teachers. Their lectures are just sort of a ready-made recipe book to teach scientific concepts. While students in our classrooms today are enclosed with technology and we are arranging them for the jobs that have not yet been created. Otherwise, innovations in science and technology have helping in many new methods of teaching and learning, such as e-blended learning, particularly in the field of education and self-growth. So faculties must take steps to bridge the gap that prepares students for their future careers by embracing a blended model of learning to help students improve the critical skills of the 21st century.

Aim of the study

To examine the effect of blended vs. traditional teaching methods on nursing student's academic stress and achievement at Mansoura University.

Research Hypothesis

It was hypothesized that

- Students included in blended teaching will improved in academic achievement compared to students included in traditional teaching method.

- Students included in blended teaching method will have a lower score in academic stress compared to the students included in traditional teaching method

Research Design: Quasi experimental

Subject

Purposive samples of all third-level students' in the academic year 2018-2019. The total number of nursing students enrolled in the first semester (n= 309 nursing students) at the Nursing Administration credit course, Faculty of Nursing, Mansoura University. These nursing students naturally divided by Student Affairs into two groups:-

Group I: Blended group. Consisted of 149 nursing students, educated by blended planned course subjects as a teaching strategy.

Operational definition of blended learning is a mix of the traditional face-to-face and the on-line learning so that instruction occurs both in the classroom and on-line.

Group II: Traditional group. Consisted of 160 nursing students whom learned by the traditional educational strategy (lecture).

Operational definition of traditional learning is a learning process where both learners and teachers are physically present in the same place at the same time.

Tools for Data Collection
1. **A self-administered structured questionnaire**.

It was developed by **Chen & Jones (2007).** It was used to assess undergraduate nursing students' opinions regarding traditional and

blended-learning teaching strategy which used in a teaching course, It consists of 19 items and is modified by the researcher to 17 items. It contains two dimensions, the first dimension contains 12 items to measure student's satisfaction regarding using two teaching methods in the nursing administration course, and the second dimension regarding Course outcomes skills gained from using two methods. Response to items was measured on a five-point scale from 1 (strongly disagree) to 5 (strongly agree). Scoring system of satisfaction related to satisfaction of using methods of learning was Low (<50%), Moderate (50-75%), and High (>75%))

2. Academic Stress Scale

It was developed by **Bedewy & Gabriel, (2015)** to assess academic stress among students. It consists of 18 items grouped under three subscale namely; academic expectations (four items), workload and examinations (eight items), and students' academic self-perceptions (six items). The items related to these academic stresses were converted into an 18-item, 5-point Likert-type questionnaire. The Scoring system of the academic stress scale was Low (<50%), Moderate (50-75%), and High (>75%).

3. Academic achievement sheet.

It was a formal sheet to identify students' achievements along the period of study semester. The student achievement sheet is identified by using an average grade scale that is designed as an accumulated form for assessing students' progress in the semester term. It consists of semester

work grade, oral, and final exam. Total scores are 160 marks, it contains five categories; excellent85:100%, very good (75:84%), good (65:74%), fair (60:64%), poor (50:59%), and very poor less than 50.%, acceding to the formal internal law of faculty.

Validity and reliability

The tools were translated into the Arabic language. Eight faculty members verified the face and content validity of the translated instruments. The result was 0.97 for the traditional and blended-learning questionnaire and 0.90 for the academic stress scale. At the end of the study, that data was not used. A pilot study with 20nursing students was conducted to ensure the simplicity and relevancy of tools. Some questions were reviewed, canceled, and reorganized to be simply understood to ensure internal consistency reliability of the translated traditional and blended questionnaire and academic stress scale. Test-retest reliability, internal consistency reliability (α=0.90), and (α=0.95) of a self-administered structured questionnaire and academic stress scale are well established.

Field work

- Data collection phase: the data was collected from the third level of nursing students in the academic years 2018-2019. The data collected to find the effect blended vs. traditional methods of teaching and its relation to academic stress and achievement among nursing students.

- The blended learning sections consisted of twelve-semester meetings, one of which was the beginning of the semester. Throughout the semester all meetings were online for two hours a week. Each week the traditional section met twice.

- The researchers have distributed all tools traditional and blended questionnaire and academic stress scale at the end of the course. The time needed to complete the tools were 20-30 minutes for collecting data from nursing students.

- The nursing students recorded the answers in the presence of the researcher to ascertain all questions were answered. The data was collected over a period of three months from the beginning of October 2018. A tool of Student achievement was collected by researchers from the control room at the end of the final written examination of January month.

- The learning management system used by the university was Moodle. Moodle is an acronym for Modular Object-Oriented Dynamic Learning Environment. Moodle is a tool used for making e-learning academic courses. It's a software package specially planned to help lecturers create e-learning courses. It encourages students to be active learners, engages actively in the online learning process accessed through a structured website that facilitates a wide range of activities such as online conversation, quizzes, discussion boards, file upload, chat room entry, provides assignments, resources, and interactive video vision that are generally sufficient for the establishment of e-learning courses through such new technologies

Ethical considerations

The study was approved by dean of faculty. Consent was obtained from the head of the department, teacher who responsible of teaching course and the samples after clear description of the study purpose, and the right to withdraw at any point of time. Confidentiality and full privacy was assured.

Statistical analysis:

The collected data were organized, tabulated and statistically analyzed using SPSS software (Statistical Package for the Social Sciences, version 16, SPSS Inc. Chicago, IL, USA). For quantitative data, the range, mean and standard deviation has been calculated. For qualitative data, comparison between two groups and more was done using Chi-square test ($\chi 2$). For comparison between means of two groups, parametric analysis (t-test) was used. Correlation between variables was evaluated using Pearson's correlation coefficient (r). Significance was adopted at $p<0.05$ for interpretation of results of tests of significance. (**Dawson**&**Trapp, 2001**)

Conflict of interest:

No conflict of interests. Financial competing Interest.

RESULTS

Table (1): Personnel Characteristics of the Studied Nursing Students (n=309)

Variables	Blended Learning n=(149)		Traditional Learning (n=160)	
	N	%	N	%
Age				
<20	113	75.84	103	64.4
≥20	36	24.16	57	35.6
Gender				
Male	39	26.17	71	44.4
Female	110	73.83	89	55.6

Table (1) this table shows personnel characteristics of studied nursing students. Nearly three fourth of nursing students were less than 20 years and were female in blended method. While more than half of students also were less than20 years and were female at traditional method.

Table (2): Mean Score of students' Satisfaction Regarding Using Blended versus Traditional Teaching Method as Perceived by Both Studied Groups (n=309)

Items	Blended teaching group n=(149) Mean+S.D	Traditional teaching group N=(160) Mean+S.D	t	p value
1- Overall, this was an excellent course.	3.932+.875	3.506+1.069	15.954	.000*
2- Overall, the instructor was an excellent teacher.	4.120+.725	4.431+.782	5.831	.016*
3- I learned a great deal from this course	3.845+.777	3.712+.803	2.143	.144
4-I gained a good understanding of concepts/principles in this field	3.932+.802	3.768+.728	.005	.946
5- The clarity of instruction was good.	3.919+749	3.843+.789	.703	.402
6- I will use what I learned in nursing administration in my career.	4.053+.803	3.837+.815	.118	.732
7-I deepened my interest in the subject matter of this course	3.731+.776	3.293+1.124	16.359	.000*
8- I was motivated to do well in nursing administration	3.865+819	3.437+1.050	10.123	.002*
9- I enjoyed the class	3.805+.882	3.468+.896	.378	.539
10-Nursing administration was interesting	3.644+.930	3.137+1.107	.563	.454
11-Nursing administration was difficult	3.503+.955	3.893+.935	1.005	.317
12- I am confident in my ability to understand and apply concepts learned in this course.	3.818+.805	3.875+.750	2.017	.157
Total	46.174+6.065	44.206+6.198	.014	.905

*Significant (P<0.05)

Table (2) this table shows mean score of students' satisfaction regarding using blended versus traditional teaching method as perceived by studied groups. Total mean score of course satisfaction by using blended method (46.17± 6.06)is higher than mean score of traditional method(44.20± 6.19) There were statistical significant difference for some items as this was an excellent course, i was motivated to do well in nursing administration and i was motivated to do well in nursing administration in blended learning method than in traditional learning method (P<0.05)while there was a significance difference of the instructor was an excellent teacher, at traditional than at blended learning method (P<0.05).

Table (3): Students' Satisfaction Levels Regarding Using Blended versus Traditional Teaching Method as Perceived by Both Studied Groups (n=309)

satisfaction levels	Score	Blended Learning n=(149)		Traditional Learning n=(160)		χ2/ p
		N	%	N	%	6.71
Low (<50%)	12-29	2	1.3	4	2.5	0.035*
Moderate (50-75%)	30-45	61	40.9	87	54.4	
High (>75%)	46-60	86	57.7	69	43.1	

Table (3) this table shows the level of students' satisfaction by using blended versus traditional methods as perceived by both studied groups. There was significant difference between blended and traditional learning method (P<0.05). More than half of nursing students were highly satisfied with blended methods (57.7%) than traditional method (43.1%).

Table (4): Mean Score of Skills Outcomes by Using Blended versus Traditional Methods as Perceived by Both Studied Groups (n=309)

Course outcomes skills	Blended teaching group n=(149)	Traditional teaching group n=(160)	t	p value
	Mean+S.D	Mean+S.D		
My skills have improved as a result of this course	3.745 ±.815	3.500 ± .890	1.360	.244
My analytical skills have improved as a result of this course	3.791 ±.799	3.500 ± .816	1.706	.192
My interpersonal skills have improved as a result of this course	3.718 ± .923	3.375 ± .969	1.044	.308
My computer skills have improved as a result of this course	3.671 ± .968	2.475 ± 1.181	11.984	.001*
I am confident in determining what is relevant in solving problems	3.865 ± .741	2.925 ± 1.241	33.447	.000*
Total	18.791±2.952	15.775±2.808	.010	.921

*Significant (P<0.05)

Table (4) this table shows the mean score of skills outcomes by using blended versus traditional methods as perceived by both studied groups. There were a significant difference for two skills outcomes which are my computer skills have improved as a result of this course and I am confident in determining what is relevant in solving problems acquired by the group who using blended learning than the group who used traditional method at (P<0.05).

Table (5): Mean Score of Academic Stress by Using Blended versus Traditional Methods as Perceived by Both Studied Groups (n=309)

Academic Stress Dimension	Blended Learning (n=149) Mean±SD	Traditional Learning (n=160) Mean±SD	t	P*
Stress related to academic expectation	11.10±3.27	12.30±3.51	3.10	0.002**
Stress related to faculty work and examination	25.49±4.79	26.38±5.74	1.48	0.13
Stress related to students' academic self-perception	18.87±3.50	19.05±4.90	0.36	0.71
Total academic Stress	55.47±9.14	57.74±11.16	1.95	0.05*

*Significant (P<0.05)

Table (5) this table reveals the mean score of academic stress by using blended versus traditional methods as perceived by both studied groups. The total mean score of the traditional method higher than the mean score at the blended method (57.74±11.16, 55.47±9.14) respectively. There was a positive statistical significance difference at (P<0.05*)

Table (6): Academic stress Levels by Using Blended versus Traditional Methods as Perceived by Both Studied Groups (n=309):

Academic stress levels	Score	Blended Learning n=(149)		Traditional Learning n=(160)		χ^2/ p
		N	%	N	%	11.74
Low (<50%)	18-44	15	10.1	18	11.3	0.003**
Moderate (50-75%)	45-67	123	82.6	109	68.1	
High (>75%)	68-90	11	7.4	33	20.6	

Table (6) this table illustrates level of academic stress by using blended versus traditional methods as perceived by both studied groups. There were a statistical significant difference between blended and traditional learning method (P<0.05). Majority of nursing students were moderate academic stress at both methods. Blended method (82.6%) was higher than at traditional method(68.1%) .
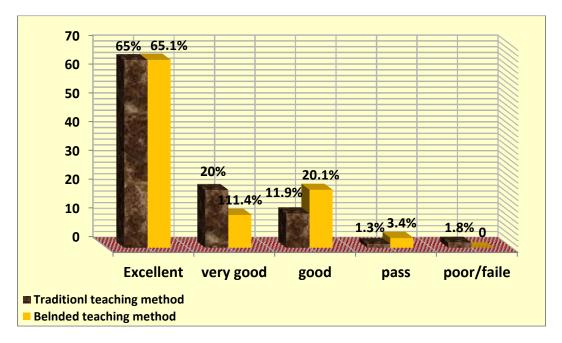
Figure (1): Percentages of students' achievement grads for both studied groups

This figure showed the percentage of achievement grads among both studied groups. High percentage of Students included in the blended method have good grade achievement than at the traditional method. Finally no failed students whose learning by blended method.

Table (7): Mean differences between Academic Students' Stress and Their Achievement by Using Blended versus Traditional teaching method among Both studied groups (309)

Items	Blended(n= 149)	Traditional(n= 160)	t	p-value
	Mean + S.D	Mean + S.D		
Academic Students' stress	55.536 +9. 146	57.743+11.1631	7.093	.008*
Academic achievement	144.590+11.0915	144.518+12.188	.970	.325

Table (7) this table shows the mean differences between academic students' stress and their achievement by using blended versus traditional teaching method among both studied groups. The academic stress level in the studied group submitted to traditional teaching method was (57.74+11.16) higher than the group who used the blended method in their teaching (55.536 +9. 146).   There was a significant difference related to academic stress

among students learning by the traditional method of teaching than in the group who learned by the blended method of teaching. Also regarding academic achievement, achievement in both groups nearly equal. There were no significant difference in both group.
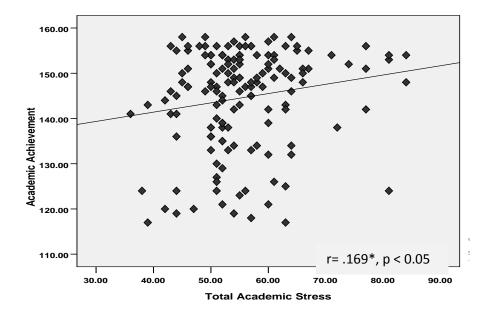

Figure (2): Correlation between total academic students' stress and their achievement among blended teaching method study group.

This figure showed a correlation between total academic students' stress and their achievement among the blended teaching method study group. Correlation between total academic stress and achievement at the blended group was significant.
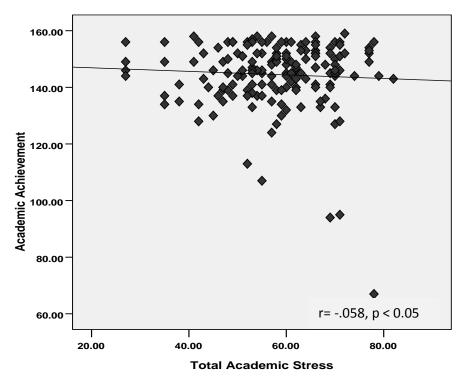
r= -.058, p < 0.05

Figure (3): Correlation between total academic students' stress and their achievement among traditional teaching method study group.

This figure showed a correlation between total academic student stress and their achievement among traditional teaching method study group. There were no statistical significant correlation between total academic stress and achievement at the traditional group**.**

Discussion

In the twenty-first century, BL learning is one of the latest trends in education and teaching; it has been chosen as an instructional approach in which more than one medium is used to convey information and experience to learners to achieve the best possible learning achievement **(Zakaria, Awang, Abdul Rahman, 2019)**.

Total mean score of satisfaction of course by using the blended method higher than the mean score of the traditional method and more than half of nursing students were high satisfaction level at blended methods than the traditional method. This because the blended learning method is now gaining more recognition and acceptance and thus appears as a different teaching method that helps students improve their performance. As well as saving time particularly for large classes because it helps to reach a wide number of students in a

short time. This result support by **Ramly et al (2019)**showed that the students were highly satisfied with the blended teaching method compared to the traditional lecture method.

Lin, Tseng, &Chiang, (2016) reported that students who study with blended learning often have a more positive view of the subject they studied. **Tananuraksakul (2016)** found that students are motivated by blended learning and have a positive attitude towards it but that it may not be an appropriate tool for actual learning. **Jaish (2018)** contradicted the result agree that students learned in a traditional setting was happier and more satisfied with the clearness of teaching. Whereas learners who learn in blended environments appreciated and benefited more in the development of analytical skills.

The result revealed that there was a significance differences for two skills outcome which computer skills have improved and confident in determining what is relevant in solving problems acquired by group who using to electronic resources is flexible – accessibility of learning blended learning than group who used traditional method. This result due to blended learning environment encourages student-centered learning and critical thinking by giving chance and providing a beneficial environment in which students take greater accountability for their learning, as well as contact resources are available at all

times that promote student independence and also provide opportunities for networking. Promote student independence and also provide networking opportunities. **Bakeer (2018)** indicated that the blended learning method can assist the learners' taking accountability for their learning by creating them self-directed and confident. **The result agrees with Kintu, Zhu, and Kagambe (2017)** showed that the predictor factor of blended learning effectiveness high computer competences and confidence. Also**, Kavitha and Jai Singh (2018)** showed that blended learning environments support the positive influence on learning, with a high level of student confidence and skill level in handling the technology. **Kavitha, Jalaja Jayalakshmi, and Rassika, (2018)** revealed that students who used blended learning approaches promoted the information, communication technologies, and analytical skill development.

The result revealed that the total of nursing students about academic stress levels ,total mean score of traditional method higher than mean score at the blended method and majority of nursing students were moderate academic stress with the blended method. This due to educators considers using blended learning model as a tool for managing learning rather than boosting performance. Organization and communication are useful supporting mechanisms for helping students that may not always show up in improved

performance but rather decrease stress over expectation.

This result in the same line with **Luaran, Yusof, Jain, Alias, and Hussin (2015)** revealed the mean score for student stress is low with blended learning. Thus, it can be concluded that the level of stress is considered low. **Essel and Owusu (2017)** Reported that students with the traditional learning experience of high academic stress at predictable times are the result of preparing and taking exams, competing in class rankings, and understanding an enormous amount of syllabus in a relatively short time frame. **Luaran, Yusof, Jain, Alias, and Hussin (2015)** evidence that blended learning has a range of welfares matched to traditional or fully online courses, such as allowing students with more control over learning and assisting students to promote innovation and critical thinking, improving students' learning achievement, increasing students' learning satisfaction and decreasing stress rate

The result showed that achievement grads among two groups are the same except no failed at blended. Due to the benefits of an online learning management system may not be observed in academic performance but may benefit students in other ways such as motivation, satisfaction, and or self-regulation .The major dislike was that too much time was needed in the blended portion of the class when compared with traditional that it required less

time outside of class. This result consistent with **Thomas (2018**) pointed to that there is little correlation between the two teaching methods. And **Wisneski, Ozogul, &Bichelmeyer, (2017)** founded that no significant difference when employing a blended learning model without positive difference in performance.

This result inconsistent with **Asarta, & Schmidt. (2017)** students are much more active online but are not seeing a corresponding increase in academic performance. Indicating active but not effective behavior in the online context .**Wei, Shi, Yang, and Liu (2017)** showed that blended learning learners had better learning achievements than the traditional. And **Khader (2016)**revealed that blended learning took the potential to progress students' successes on exams when likened to a traditional classroom. **Ceylan and Kesici (2017)** ensured that the study group is more competitive academically than the control group. **Islam et al (2018)** proved that there is a significant difference in student achievement between direct learning and blended learning.

The result presented there was a significant correlation between total academic stress and achievement at the blended group**.** This result may be due to students themselves having a way to reduce stress's impact on their success. This proposes that accept methods for students to handle stress change policy and using in educating the greater

learners. This result agreed with **Essel and Owusu (2017)** founded that significance between two experimental studies because, with the semester system, students need fewer periods however they are mandatory to achieve that leads to stress. **Khan, Altaf, and Kausar (2018)** presented that the adverse outcome of academic stress on student's achievement. **Gbettor, Krishan. (2017)** found that stress and academic performance no significant effects.

Conclusion:

The present finding concluded that satisfaction with the course by using the blended method was higher than students whose learning by traditional method. Also, Academic stress was higher among students who learned by traditional methods than students who learned by the blended method. Achievement alternatively equal in good and very good grades but no failed students whose learning by the blended method. Total academic stress and achievement in the blended group were a significant correlation. No statistical significant difference in total academic stress and achievement at traditional group.

Recommendations:

In light of the results of the study, the researcher recommends the following:

1- The faculty should work on the blended learning that focusing on improving the achievement, and taking into account the students' different thinking skills

2- Both teachers and students require a specialized training programs to use computers and the internet and faculty management should takes serious steps to facilitations development skills of teachers' and students information technology

3- Empowering teachers to implement blended learning and other strategies of teaching in the teaching process to reduce student academic stress.

4- Researchers could perform more research on the implementation of blended learning approach with academic achievement.

Limitations:

All courses not online activities or online presence but it varied from course to course. This may have had an effect on the results.

Reference:

*Alla L. (2015).*Blended Learning vs Traditional Learning: What Works? (A Case Study Research). Annual International Academic Conference, Language and Culture.27–30.Procedia - Social and Behavioral Sciences. 77 − 82 . Available online at www. sciencedirect. com

Alsulami S, Al Omar Z, Binnwejim M, Alhamdan F, Aldrees A, Al-bawardi A , Alsohim M,

Alhabeeb M. (2018). Perception of academic stress among Health Science Preparatory Program students in two Saudi universities. Advances in Medical Education and Practice.9 159–16.

Asarta, C. J., & Schmidt, J. R. (2017). Comparing student performance in blended and traditional courses: Does prior academic achievement matter? The Internet and Higher Education, 32, 29–38. https:// doi. org/10.1016/j.iheduc.2016.08.0 02

Bakeer A. (2018). Students' Attitudes towards Implementing Blended Learning in Teaching English in Higher Education Institutions: A Case of Al-Quds Open University. International Journal of Humanities and Social Science Vol. 8. No. 6. doi:10.30845/ijhss.v8n6p15 131

Ceylan, V.K., & Elitok Kesici, A. (2017). Effect of blended learning to academic achievement. Journal of Human Sciences, 14(1), 308-320. doi:10.14687/jhs.v14i1.4141

Dangwal K. (2017). Blended Learning: An Innovative Approach. Universal Journal of Educational Research 5(1): 129-136.

Eakman, A. M., Kinney, A. R., Schierl, M. L., & Henry, K. L. *(2019).* Academic performance in student service members/ veterans: Effects of instructor autonomy support, academic self-efficacy and academic problems.

Essel G and Owusu P. (2017). Causes of students' stress, its effects on their academic success, and stress management by students Case study at Seinäjoki University of Applied Sciences, Finland Thesis Spring: Faculty: Business Administration Degree Programme: International Business

Gbettor E, Atatsi E, DankuL, and Soglo N. (2015). Stress and Academic Achievement: Empirical Evidence of Business Students in a Ghanaian Polytechnic. https: // doi. org/ 10. 1155/2018/7425924

Hua L, Goodwin D, Weiss A. (2013). Traditional vs. Blended Learning of Pharmacology. Alfred Optometric Education. Volume 39, Number1. pp,28-34.

Islam S, Baharun H, Muali C, Iq Bali M, WijayaM,Ghufron M and Marzuki I . (2018). To Boost Students' Motivation and Achievement through Blended .Learning. Journal of Physics: Conf. Series, 1114 012046 doi: 10.1088/1742-6596/ 1114/ 1/ 012046.

Jaish, K. (2018). Study on the Student Experiences in Blended Learning Environments. International Journal of Recent Technology and Engineering ISSN: 2277-3878, Volume-7 Issue-4S.

Kavitha R.K., Jaisingh W. (2018). A Study on the Student Experiences in Blended Learning Environments. International Journal of Recent Technology and Engineering (IJRTE) ISSN: 2277-3878, Volume-7 Issue-4S.

Kavitha,R.K., Jalaja Jayal akshmi, V., Rassika, R., (2018)*.* Collaborative learning in Computer Programming Courses using ELearning Environments. International Journal of Pure and Applied Mathematics, Volume 118 No. 8 2018, 183-189

Khader N (2016). The Effectiveness of Blended Learning in Improving Students' Achievement in Third Grade's Science in BaniKenana. Journal of Education and Practice.Vol.7, No.35.

KhanM, Altaf and Kausar S. (2018). Effect of Perceived Academic Stress on Students' Performance. https:// www. researchgate. net/ publication/ 327280770

Kintu M, Zhu C, and Kagambe E. (2017). Blended learning effectiveness: the relationship between student characteristics, design features and outcomes. International Journal of Educational Technology in Higher Education.

Krishan P, (2017). Academic stress, achievement motivation and self-concept – relation to educational choice. International Journal of Technical Research & Science. ISSN No.: 2454- 2024 (online)

Lin, Y.-W., Tseng, C.-L., & Chiang, P.-J. (2016). The effect of blended learning in mathematics course. Eurasia Journal of Mathematics, Science and Technology Education, 13(3), 741–770. https:// doi. org/ 10. 12973/ eurasia. 2017.00641a .

LuaranJ,Yusof N , Jain J , Alias R and Hussin A. (2015). Blended Learning: Eamining Student Satisfaction, Willingness, And Stress In LearningEnglish. Conference.

Madani F (2015). The Effect Of Blended Learning Approach On Fifth Grade Students' Academic Achievement In My Beautiful Language Textbook And The Development Of Their Verbal Creative Thinking In Saudi Arabia. Journal of International Education Research, Volume 11, NO 4.253-59.

Nabizadeh, S. ,Hajian S*, Sheikhan Z and Nabizadeh F. (2019). Prediction of academic achievement based on learning strategies and outcome expectations among medical students BMC Medical Education 19:99 https://doi.org/10.1186/s12909-019-1527-9

Nguyen, T. (2015). The effectiveness of online learning; [15] Beyond no significant difference and future horizons. MERLOT Journal of Online Learning and Teaching, 11(2), 309-319.

Obiedat R, NasirEddeen L, Harfoushi O, Koury A. (2014). Effect of Blended-Learning on Academic Achievement of Students in the University of Jordan. Hamarsheh, and N. AlAssafiJET –Volume 9, Issue 2.

Oweisls T. (2018). Effects of Using a Blended Learning Method on Students' Achievement and Motivation to Learn English in Jordan: A Pilot Case Study. Education Research International, 7 pages.

Patel, PJ. (2016). Research Culturein Indian Universities. Sage Journals; 46(2):238-259

PhillipsS, Halder D and Hasib W. (2020). Academic Stress among Tertiary Level Students: A Categorical Analysis of Academic Stress Scale in the Context of Bangladesh. Asian Journal of Advanced Research and Reports8(4): 1-16,;Article no. AJARR. 53335ISSN: 2582.

Priya K. (2017). Academic Stress, Achievement Motivation And Self Concept-Relation to Educational Choice. International Journal of Technical Research &Science. Volume 2 Issue IX, pg. 525.

Ramly S, Yunus S, Rozianiwati Yusof1, Rahman N, Fadzillah N, Sarif S. (2019). Students' Satisfaction Towards the Implementation of Blended Learning: A Case Study in UiTM Negeri Sembilan. International Academic Research Journal of Social Science 5(1) Pp 1-14.Retrieved from https: // eleed. campussource. de/ archive/ 12/ 4502/ index_html

Schulmeister, R. (2017). Presence and self-study in blended learning. Eleed, 12(1).

Students' academic achievement performance and satisfaction in a flipped classroom in Saudi Arabia. Int. J. Technology Enhanced Learning, 2019, Vol. 11, No. 1, 103.

Tananuraksakul, N. (2016). Blended e-learning as a requirement for teaching EFL in a Thai academic context. Teaching English with Technology, 16(4), 48–55. Retrieved from https:// www. ceeol. com/ search/ article-detail? id= 455476

Thomas D. (2018). Blended learning behavior of university students and academic performance in Thailand. RJES Vol.5, No.2.

Wei Y, Shi Y, Yang H, and LiuJ. (2017). Blended Learning versus Traditional Learning: A Study on Students' Learning Achievements and Academic Press. Conference paper

Wisneski, J. E., Ozogul, G., & Bichelmeyer, B. A. (2017). Investigating the impact of learning environments on undergraduate students' academic performance in a prerequisite and post-requisite course sequence. The Internet and Higher Education, 32, 1–10. https:// doi. org/ 10. 1016/ j. iheduc. 2016. 08. 003.

ZakariaM, Awang S, and Abdul Rahman R. (2019). MOOCs in Blended Learning More Effective than Traditional Classrooms for Undergraduate Learners? Universal Journal of Educational Research 7(11): 2417-2424, http:// www. hrpub. Org DOI: 10.13189/ujer.2019.0 71119 Are

Zawacki-Richter, O., Bozkurt, A., U., & Aldraiweesh, A. (2018). What research says about MOOCs- An explorative content analysis. International Review of Research in Open and Distributed Learning, 19 (1), 1-9.