



Web based learning Modalities for Distance Learning Success: A comparison of 4 universities

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This study examined factors that contribute to Web based learning success in Distance Education using eLearning platforms from students and faculty perceptions. The study examined student's self-efficacy, online self-efficacy, motivation, prior knowledge and course expectations (Kölmel &Würtz, 2015). Eight well-known factors that comprise of student support, social presence, direct instruction, learning platform, faculty interaction, student interaction, learning content, and course design and three outcome factors that include what students receive from their Web based learning experience like student satisfaction, knowledge acquisition, and knowledge transfer were examined Kölmel &Würtz, 2015). A questionnaire was completed by 396 students and 80 lecturers from four universities in Ghana namely University of Cape Coast, University of Ghana, University of Education Winneba and Kwame Nkrumah

University of Science and Technology. The results revealed that from students' point of view, course design, learning content and prior knowledge were significant predictors of student success. Faculty specified that there are six main factors that are important in creating an effective Web based learning classroom: course design, instruction, learning platform, learning interaction, learning content and social presence.

The findings of this study will be helpful for educational stakeholders in planning distance learning through blended mode strategies.

keywords Web based learning, online success, critical success factors, course design, student-faculty interaction, faculty perception, student perception, student satisfaction, knowledge acquisition, knowledge transfer

Introduction

In the past decade tertiary institutions running the distance mode have experienced the effect of emerging and disruptive technologies; this has had an impact on students and faculty to demand technological competencies among institutions (Heinze & Procter, 2018). Universities have promoted Web based learning processes and making use of Information and Communication Technologies (ICTs) to offer their students a technique to develop new competencies as well as to take advantage of flexibility of time and space (Kölmel & Würtz, 2015). The use of Web based learning tools is growing in distance education (Heinze & Procter, 2018) hence there are more and more universities are offering Web based learning programmes through different learning management systems. eLearning through Web based learning mode in this 21st century has transformed the educational curriculum of Distance Educational Institutions.

Kaminskaya, 2016 posits that Web based learning is faced with the challenges of having to comprehend the factors that lead to effective distance educational environments to enable students achieve successful completion of their Web based learning courses. Today, the use of e-learning through the Web based learning approach is diffusing rapidly in Ghana with many courses offered by different institutions running the distance mode.

Currently, research on examining success factors in blended learning in universities in the Ghanaian context is scarce. Current studies have focused on measuring effectiveness of teaching through the distance mode by assessing student's knowledge evaluation after the course or at the end of semester and not students' perceptions regarding their knowledge and participation in the course.

Study objectives

The study sought to identify factors affecting success factors in web-based learning from students and faculty' perception. The following objectives guided the study.

1. To identify the relationships between student factors (general self-efficacy, online self-efficacy, motivation, prior knowledge, course expectation) and each outcome factor (student satisfaction, knowledge acquisition, knowledge transfer (Kölmel &Würtz, 2015)).
2. To identify the relationships between institutional factors (learning support, social presence, course design, instruction, learning platform, faculty interaction, student interaction, learning content) and each outcome factor (student satisfaction, knowledge acquisition, knowledge transfer (Kölmel &Würtz, 2015)).
3. To determine the extent to which student satisfaction, knowledge acquisition and knowledge transfer can be precisely predicted from students' and faculty' perspective (Kölmel &Würtz, 2015)

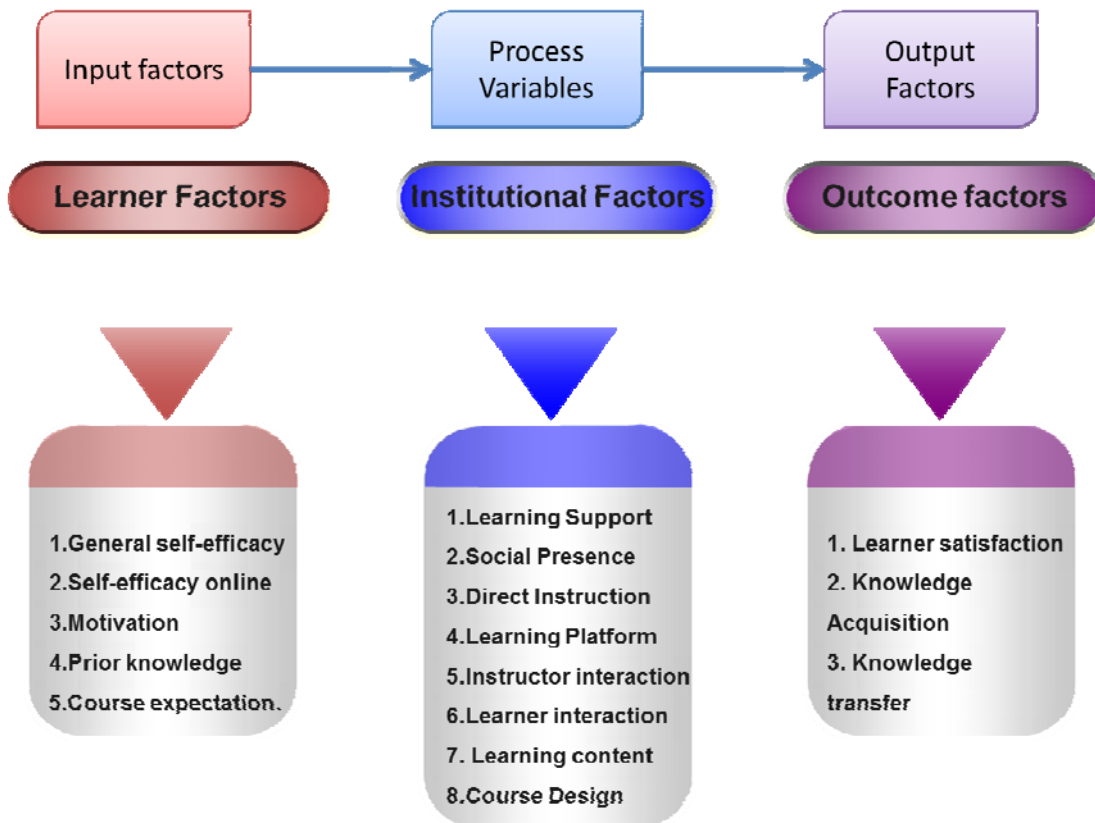
Literature Review

Collis and Moonen, 2017 assert that Web based learning has been one of the most growing practices in tertiary education. However, for this new approach to educational stake holders have an interest in knowing which specific behaviour affects student outcomes in order to support the creation of better educational practices for designing online courses for blended learning courses.

Theoretical approach

Systemic model of success prediction

The multicultural systemic model (Chew, Jones & Heinze (2014). Was adopted in carrying out the study since it takes into account prerequisites that cover all areas and activities of the online process. The model comprises



: student factors, institutional factors and outcome factors.

Figure 1. The multicultural systemic model (Chew ,Jones & Heinze (2014).

:Web based learning should include clear and concise course descriptions, learning objectives, resources and timelines for contributions by students (Chew, Jones & Heinze (2014).

The student’s needs and interest should be the foundation in which the course is designed; Based on learning design principles, Collis and Moonen,, 2017 list six important reasons why good learning design should be made and which are important for every Web based learning context. These are:

1. It can act as a means of taking into account faculty’ designs in a format that can be tested and revised by developers. That is to say, to

use a common language in understanding learning activities (Collis & Moonen,, 2017).

2. It provides a means by which designs can be reused beyond the philosophy of sharing (Collis & Moonen,, 2017)..

3. Students can be guided through the process of creating new learning activities. (Collis & Moonen,, 2017)

4. A revision way to check syllabus design is made (Collis & Moonen,, 2017).

5. It can highlight political implications for staff development, resource allocation, quality, etc.

6. It helps students in complex activities and guiding them through the activity sequence (Collis & Moonen,, 2017)

Methodology

To advance this study, a quantitative descriptive-correlational research design was used (Chew, Jones & Heinze, 2014). Data were collected with the survey instrument for identifying features and variables involved in the performance of students in e-learning developed by Chew, Jones & Heinze (2014).

In order to analyse and answer the research questions, several statistics techniques were used (reliability analysis, one-way ANOVA, non-parametric correlation analysis, Spearman Rho correlation analysis and stepwise regressions), numerical and graphical procedures were used to report the results and tables and charts were used to present findings.

The selection of the setting was chosen from universities that could be considered representative in the use of Web based learning in Ghana. The selection of participants was done using a purposive sampling procedure (Kaminskaya, 2016). This sampling aimed to include diversity of students and faculty and allowed the constructs of knowledge acquisition, learning satisfaction and knowledge transfer to be investigated in the Web based learning context. Then a representative portion of the population was selected and analyzed; from this sample, inferences on the

population were made. As Kaminskaya (2016) suggests, the aim of using this sampling procedure is to obtain a statistical profile of the population. For this, probabilistic assumptions about the behaviour of different variables, such as demographic, perception, conception, etc. were made.

The setting was selected for the following reasons:

- 1) The representativeness of the university for online students in the country.
- 2) The university has a large experience in graduate and undergraduate Web based learning courses.
- 3) The researcher’s accessibility to online students and faculty members
- 4) The researcher’s familiarity with the structure and technologies of the institution's undergraduate online education programs.

INSTRUMENTS

Two different strategies for collecting information were employed. a questionnaire for students and faculty to find out variables involved in the performance of students in an online course; and the second was a semi-structured interview via zoom.

Faculty Demographic Profile

Table 1 shows demographic distributions of gender, age, education and experience with ICT for faculty. There were more male (52.5%) respondents than female (47.5%). This is according to the number of faculty teaching courses at the University.

Table 1 Faculty demographic profile

Demographic	Frequency	Percent
Gender:		
Female	38	47.5
Male	42	52.5
Age:		
25-34	40	50

35-54	18	22.5
55-60	22	27.5
Education:		
Bachelor Degree	20	25
Master Degree	44	55
Doctorate Degree	16	20
Exper ience: Exper ience with ICT		
Intermediate	38	47.5
Advanced	42	52.5

Half of the faculty were 25-34 years old, 22.5 percent were either 35-54, and 27.5 percent was 55-60 years old. More than half of the faculty (52.5%) have advanced level using ICT, 47.5% have intermediate level and no one reported to be a beginner user of ICT.

RELATIONSHIP BETWEEN STUDENT AND INSTITUTIONAL VARIABLES FROM STUDENTS' AND FACULTY' PERCEPTION

In order to examine the relationship between variables a correlation analysis was carried out.

The sample size for analyses consisted of 396 students and 80 faculty representing all students and faculty who completed the two surveys. Participants who did not answer one of the surveys were not included and deleted from the survey.

Correlation analysis from student's perception.

All five student predictors were significantly correlated with outcome factors. The positive relationship of each predictor with each outcome factor implied a tendency towards a tertiary student satisfaction, knowledge acquisition and knowledge transfer scores when scores of each independent variable increased. General self-efficacy ($r = .820, p < .01$), online self-efficacy ($r = .689, p < .01$), motivation ($r = .560, p < .01$), prior knowledge ($r = .530, p < .01$) and course expectation ($r = .516, p < .01$) showed strongest relationship with student satisfaction.

Motivation ($r = .778, p = .01$), online self-efficacy ($r = .637, p < .01$), general self-efficacy ($r = .617, p < .01$) and prior knowledge ($r = .588, p < .01$) showed strongest relationship with knowledge acquisition while course expectation ($r = .473, p < .01$) showed a weak correlation with knowledge acquisition.

Prior knowledge ($r = .685, p < .01$), course expectation ($r = .660, p < .01$) and general self-efficacy ($r = .567, p < .01$) showed strongest relationship with knowledge transfer while online self-efficacy ($r = .494, p < .01$) and motivation ($r = .490, p = .01$) showed a weak correlation with knowledge transfer.

All eight institutional predictors were significantly correlated with outcome factors. The positive relationship of each predictor with each outcome factor implied a tendency towards a tertiary student satisfaction; knowledge acquisition and knowledge transfer scores when scores of each independent variable increased.

Course design ($r = .735, p < .01$), learning content ($r = .687, p < .01$), social presence ($r = .567, p < .01$) and instruction ($r = .539, p < .01$) showed strongest relationship with student satisfaction while student support ($r = .471, p < .01$), Faculty Interaction ($r = .446, p < .01$), student interaction ($r = .441, p < .01$) and learning platform ($r = .376, p < .01$) showed a weak correlation with satisfaction.

Course design ($r = .672, p < .01$), learning content ($r = .627, p < .01$), instruction ($r = .562, p < .01$), social presence ($r = .534, p < .01$) and Faculty Interaction ($r = .517, p < .01$) showed strongest relationship to knowledge acquisition while student interaction ($r = .405, p < .01$), student support ($r = .442, p < .01$) and learning platform ($r = .338, p < .01$) showed a weak correlation with knowledge acquisition.

Course design ($r = .595, p < .01$) and learning content ($r = .535, p < .01$) showed strongest relationship with knowledge transfer while instruction ($r = .461, p < .01$), social presence ($r = .460, p < .01$), student support ($r = .368, p < .01$), student interaction ($r = .365, p < .01$) Faculty Interaction ($r = .346, p < .01$), and learning platform ($r = .236, p < .01$) showed a weak correlation with knowledge transfer.

Table 2 Means, standard deviations and results of the correlation analysis among institutional factors from students perception.

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1 Student support	3.19	0.47	1										
2 Social presence	3.01	0.64	.597**	1									
3 Instruction	3.08	0.64	.604**	.807**	1								
4 Learning Platform	3.06	0.46	.561**	.461**	.472**	1							
5 Faculty Interaction	2.99	0.70	.552**	.694**	.730**	.444**	1						
6 Student Interaction	3.16	0.53	.327**	.395**	.376**	.239**	.328**	1					
7 Learning Content	3.10	0.59	.547**	.567**	.565**	.447**	.539**	.416**	1				
8 Course Design	3.10	0.55	.578**	.619**	.638**	.448**	.586**	.438**	.717**	1			
9 Student Satisfaction	3.28	0.57	.471**	.567**	.539**	.376**	.446**	.401**	.687**	.735**	1		
10 Knowledge Acquisition	3.09	0.57	.442**	.534**	.562**	.338**	.517**	.405**	.627**	.672**	.700**	1	
11 Knowledge Transfer	3.09	0.58	.368**	.460**	.461**	.236**	.346**	.365**	.535**	.595**	.660**	.620**	1

Note. * $p < .05$; ** $p < .01$

Correlation analysis from faculty' perception.

From faculty' point of view, all five student predictors showed a very weak correlation with outcome factors.

From faculty' point of view, all eight institutional predictors were significantly correlated with outcome factors. The positive relationship of each predictor with each outcome factor implied a tendency towards a tertiary student satisfaction, knowledge acquisition and knowledge transfer scores when scores of each independent variable increased.

Course design ($r = .769, p < .01$), instruction ($r = .727, p < .01$), learning content ($r = .672, p < .01$) and student interaction ($r = .501, p < .01$) showed strongest relationship with student satisfaction while faculty interaction ($r = .390, p < .01$), learning platform ($r = .379, p < .01$), social presence ($r = .388, p < .01$) and student support ($r = .311, p < .01$) showed a weak correlation with satisfaction.

Course design ($r = .789, p < .01$), instruction ($r = .705, p < .01$), learning content ($r = .667, p < .01$) and learning platform ($r = .521, p < .01$) showed strongest relationship with knowledge acquisition, while student interaction ($r = .472, p < .01$), faculty interaction ($r = .362, p < .01$), social presence ($r = .346, p < .01$) and student support ($r = .343, p < .01$) showed a weak correlation with knowledge acquisition.

Social presence ($r = .568, p < .01$), learning content ($r = .559, p < .01$) and course design ($r = .512, p < .01$) showed strongest relationship with knowledge transfer while student interaction ($r = .490, p < .01$), instruction ($r = .480, p < .01$), student support ($r = .423, p < .01$), learning platform ($r = .406, p < .01$) and Faculty Interaction ($r = .350, p < .01$) showed a weak correlation with knowledge transfer.

Table 3 Means, standard deviations and results of the correlation analysis among students factors from faculty perception.

Variables	Mean	SD	1	2	3	4	5	6	7	8
1 General self-efficacy	2.84	0.56	1							
2 Online self-efficacy	3.30	0.50	-0.065	1						
3 Motivation	2.88	0.62	.405**	.447**	1					
4 Prior knowledge	2.85	0.44	-0.164	.389*	0.226	1				
5 Course Expectation	2.98	0.42	.313*	0.245	.397*	0.192	1			
6 Student Satisfaction	3.14	0.51	0.005	0.113	0.199	0.082	0.065	1		
7 Knowledge Acquisition	3.11	0.65	0.22	-0.074	0.214	-0.067	-0.038	.797**	1	
8 Knowledge Transfer	3.20	0.54	0.021	0.027	0.173	-0.05	0.035	.493**	.658**	1

Note. * $p < .05$; ** $p < .01$. Maximum possible score = 4

Table 4. Means, standard deviations and results of the correlation analysis among institutional factors from instructor's perception

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1 Student Support	3.11	0.48	1										
2 Social presence	3.27	0.52	.452**	1									
3 Instruction	3.28	0.50	0.261	.538**	1								
4 Learning Platform	3.06	0.57	.438**	0.109	0.289	1							
5 Faculty Interaction	3.25	0.69	0.112	.671**	.466**	0.064	1						
6 Student Interaction	3.24	0.69	.381*	.565**	.335*	0.202	.401*	1					
7 Learning Content	3.25	0.59	.412**	.343*	.583**	.525**	.352*	.396*	1				
8 Course Design	3.27	0.58	0.282	.400*	.712**	.359*	.450**	.379*	.738**	1			
9 Student Satisfaction	3.14	0.51	0.311	.388*	.727**	.379*	.390*	.501**	.672**	.769**	1		
10 Knowledge Acquisition	3.11	0.65	.343*	.346*	.705**	.521**	.362*	.472**	.667**	.789**	.797**	1	
11 Knowledge Transfer	3.20	0.54	.423**	.568**	.480**	.406**	.350*	.490**	.559**	.512**	.493**	.658**	1

Note. * $p < .05$; ** $p < .01$. Maximum possible score = 4

PREDICTOR OF LEARNING OUTCOMES FROM STUDENTS' AND FACULTY' PERCEPTIONS

A multiple linear regression analysis was carried out to see how the independent variables (student and institutional factors) could predict the outcome factors: student satisfaction, knowledge acquisitions and knowledge transfer.

In order to know that there was no extreme multicollinearity in the data, we analysed the variance inflation factors, and for all factors it was less than 3. It means that there are no redundant variables and there are no exact linear relationships between independent and dependent variables.

The five student variables and the eight institutional variables were entered into the regression equation so as to estimate how those institutional factors were proportionally related to their correlate outcome factors.

Results of regression from students' perceptions.

Regression analysis was used in order to predict student satisfaction; results are presented in table 5.

Table 5 Results of Regression of Student Satisfaction

Variables	<i>B</i>	<i>SE</i>	β	<i>T</i>
General self-efficacy	0.560	0.044	0.558	12.688**
Course Design	0.351	0.052	0.338	6.777**
Learning Content	0.103	0.050	0.106	2.069*

Note. * $p < .05$; ** $p < .01$

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On the results for students, as Table 5 indicates, three variables, general self- efficacy, course design and learning content, explained a significant amount of variance in student satisfaction. $R^2 = 0.781$, adjusted $R^2 = 0.778$, $F(1,194)=230.95$, $p = .000$.

These results suggest that 78% of the variances are explained by these variables.

Regression analysis was used in order to predict knowledge acquisition; results are presented in table 6

Table 6 Results of Regression of Knowledge Acquisition

Variables	<i>B</i>	<i>SE</i>	<i>B</i>	<i>T</i>
Motivation	0.437	0.045	0.476	9.676**
Course Design	0.261	0.057	0.26	4.577**
Learning Content	0.101	0.052	0.107	1.936*
Prior knowledge	0.097	0.04	0.114	2.436*
Faculty Interaction	0.082	0.037	0.104	2.21*

Note. * $p < .05$; ** $p < .01$

On the results for students, as Table 6 shows, five variables, motivation, course design, learning content, prior knowledge and Faculty Interaction, explained a significant amount of variance in knowledge acquisition. $R^2 = 0.746$, adjusted $R^2 = 0.74$, $F(5,192)=112,9$, $p = .000$.

These results indicate that 74% of the variances are explained by these variables.

Regression analysis was used in order to predict knowledge transfer; results are presented in table 7

Table 7 Results of Regression of Knowledge Transfer

Variables	<i>B</i>	<i>SE</i>	β	<i>t</i>
Prior knowledge	0.315	0.06	0.352	5.281**
Course Design	0.405	0.056	0.386	7.271**
Course Expectation	0.282	0.067	0.28	4.237**
Learning Platform	-0.167	0.062	-0.134	-2.683*

Note. * $p < .05$; ** $p < .01$

On the results for students, as Table 7 indicates four variables, prior knowledge, course design, course expectation and learning platform explained a significant amount of variance in knowledge transfer. $R^2 = 0.625$, adjusted $R^2 = 0.618$, $F(4,193)=80.5$, $p = .000$.

These results show that 62% of the variances are explained by these variables.

Results of regression from faculty' perceptions.

Regression analysis was used in order to predict student satisfaction; results are presented in table 8

Table 8 Results of Regression of Student Satisfaction

Variables	<i>B</i>	<i>SE</i>	β	<i>t</i>
Course Design	0.391	0.117	0.446	3.336**
Instruction	0.341	0.133	0.336	2.557*
Student Interaction	0.161	0.073	0.219	2.197*

Note. * $p < .05$; ** $p < .01$

On the results for teachers, as Table 8 indicates, three variables, course design, instruction and student interaction, explained a significant amount of variance in student satisfaction. $R^2 = 0.697$, Adjusted $R^2 = 0.672$, $F(3, 36) = 27, 6$, $p = .000$.

These results suggest that 69% of the variances are explained by these variables.

Regression analysis was used in order to predict knowledge acquisition; results are presented in table 9.

Table 9 Results of Regression of Knowledge Acquisition

Variables	<i>B</i>	<i>SE</i>	β	<i>T</i>
Course Design	0.566	0.144	0.502	3.918**
Learning Platform	0.297	0.106	0.262	2.791**
Instruction	0.353	0.163	0.271	2.169*

Note. * $p < .05$; ** $p < .01$

On the results for teachers, as Table 9 indicates, three variables, course design, learning platform and instruction explained a significant amount of variance in knowledge acquisition $R^2 = 0.724$, Adjusted $R^2 = 0.701$, $F(3,36)=31.4$, $p = .000$.

These results show that 72% of the variances are explained by these variables.

Regression analysis was used in order to predict knowledge transfer; results are presented in table 4.14.

Table 10 Results of Regression of Knowledge Transfer

Variables	<i>B</i>	<i>SE</i>	<i>B</i>	<i>T</i>
Social presence	0.446	0.133	0.426	3.354**
Learning Content	0.377	0.116	0.413	3.246**

Note. * $p < .05$; ** $p < .01$, $N = 40$

On the results for teachers, as Table 10 indicates, two variables, social presence and learning content explained a significant amount of variance in knowledge transfer $R^2 = 0.472$, Adjusted $R^2 = 0.444$, $F(2, 37) = 16.5$, $p = .000$.

STUDENTS' PERCEPTIONS

This section provides a summary of findings and discussions for research questions posed at the beginning of this study in terms of the data analysis.

The first part presents findings and discussions from students' perceptions. The second part moves on to describe the findings and discussions from faculty' perceptions.

COMPARISON BETWEEN STUDENTS AND TEACHERS PERCEPTIONS

This section examines student and faculty perceptions of web based learning. The results of the present study indicate some similarities and differences between students' and faculty' perceptions,

In order to compare perceptions of students and faculty about the student, institutional and outcome factors, data were analysed calculating means and standard deviations.

Table 11 shows the average score for each scale and mean difference between students and faculty. We ran a one-way ANOVA to compare the perceptions of students and faculty.

Table 11 Results by Students and Faculty: Mean and Significance Level

	Variables	Students		Faculty		Sig
		Mean	SD	Mean	SD	
Learner Factors	General self-efficacy	3.31	0.57	2.84	0.56	.000
	Online self-efficacy	3.20	0.61	3.30	0.50	.175
	Motivation	3.14	0.60	2.88	0.62	.031
	Prior knowledge	2.90	0.64	2.85	0.44	.767
	Course expectation	3.10	0.57	2.98	0.42	.180
Institutional Factors	Student support	3.19	0.47	3.11	0.48	.373
	Social presence	3.01	0.64	3.27	0.52	.017
	Instruction	3.08	0.64	3.28	0.50	.055
	Learning platform	3.06	0.46	3.06	0.57	.867
	Faculty Interaction	2.99	0.70	3.25	0.69	.033
	Student interaction	3.16	0.53	3.24	0.69	.440
	Learning content	3.10	0.59	3.25	0.59	.131
Course design	3.10	0.55	3.27	0.58	.080	
Outcome Factors	Student satisfaction	3.30	0.57	3.14	0.51	.140
	Knowledge acquisition	3.10	0.57	3.11	0.65	.813
	Knowledge transfer	3.10	0.58	3.20	0.54	.282

Note. Scoring 1: Strongly disagree; 2: Disagree; 3: Agree, 4: Strongly agree, $N = 40$, the mean difference is significant at the .05 level.

CONCLUSIONS AND RECOMMENDATIONS

The findings suggest that course design can be mainly linked to students' satisfaction, knowledge acquisition and knowledge transfer. This echoes recent intercultural work of Jung (2012), who found that clear guidelines, well-structured course and clear development procedures for students have influence on the perception of quality. The findings of the study indicate that students' satisfaction can be linked mainly to course design, learning content and general self-efficacy. These findings, as a group of factors, have implications for faculty and instructional designers for implementing learning strategies, in order to provide students with a quality online experience (Mantyla, 2011). Faculty need to have appropriate training in order to develop their online competences and effective communication with students. This study also found that faculty interaction was highly rated by students and was a significant predictor of knowledge acquisition and satisfaction (Mantyla, 2011).

Faculty could give different options for participants' interaction in distance education with the use of discussion boards, chats, e-mail, and videoconferencing. These different kinds of online interaction will be used by students to discuss issues, and they will choose the best option for their prior knowledge and style. Moreover, online designers need to think outside the box to surpass current e-learning platforms to transform or to link them to new technology features and affordances (PCR., 2014).

Learning transfer was a factor that all students perceived as very important and there are no significant differences in all the universities. Faculty should create a learning community where learning can be developed through meaningful interaction with students and among them and their instructor (Hew & Cheung, 2014). Faculty have to encourage the application of new knowledge in students' context, collaborate and develop group accountability (Kölmel & Würtz, 2015).

BIBLIOGRAPHY

Barbour M. (2014). History of K-12 Online and Blended Instruction Worldwide' (2014). *Handbook of Research on K-12 Online and Blended Learning*. N.P., ETC Press Publ. pp. 25–50.

Carol A. T. (2003). *Improving Learning and Reducing Costs: New Models for Online Learning*, Troy, New York: National Center for Academic Transformation. www.educause.edu/ir/library/pdf/erm0352.pdf

Chew E., Jones N., Turner D. (2014). Critical Review of the Blended Learning Models Based on Maslow's and Vygotsky's Educational Theory'. *Hybrid Learning and Education*. Berlin, Springer Verlag Publ., 2014, pp. 40–53. DOI: 10.1007/978-3-540-85170-7_4

Collis, B., and Moonen, J. (2017). *Flexible learning in a digital world: Experiences and expectations*. London: Kogan Page.

Elaydi, H. and Hammad, R. (2006). E-Learning at Islamic University of Gaza, *International Conference on Computer Theory and Applications - ICCTA 2006*, 5-7 Sep., Alexandria, Egypt

Ellis C. (2008). You Can't Do That in a Classroom!: How Distributed Learning Can Assist in the Widespread Adoption of Hybrid Learning Strategies. *Hybrid Learning and Education: Proceedings of First International Conference*. Berlin, Springer Verlag Publ., pp. 1–16. DOI:

10.1007/978-3-540-85170-7_1

Friesen M. (2012). *Report: Defining Blended Learning*. Available at: <http://blogs.ubc.ca/nfriesen/2012/09/01/where-does-blended-endvirtual-begin/> (accessed 17.03.2016).

Furedi F. (2016) *We Must Instil a Love of Reading in Students*. Available at: <https://www.timeshighereducation.com/opinion/we-mustinstil-a-love-of-reading-in-students> (accessed 17.03.2016).

Graham C.R. (2006). Blended Learning Systems: Definition, Current Trends, and Future Directions. *The Handbook of Blended Learning: Global Perspectives, Local Designs*. San Francisco, Pfeiffer Publ. pp. 3–21.

Graham C.R., Dziuban C.D. (2008). Blended Learning Environments. *Handbook of Research on Educational Communications and Technology*. Mahwah, Lawrence Earlbaum Publ., pp. 269–276.

Graham, C. R., Allen, S., and Ure, D. (2003). *Blended learning environments: A review of the research literature*. Unpublished manuscript, Provo, UT.

Heinze A., Procter C.T. (2016). *Reflections on the Use of Blended Learning*. Available at: usir.salford.ac.uk/1658/1/4247745025H__CP__paper9_5.pdf (accessed 17.03.2016).

Heinze A., Procter C.T. (2016) *Reflections on the Use of Blended Learning*. Available at: usir.salford.ac.uk/1658/1/4247745025H__CP__paper9_5.pdf (accessed 17.03.2016).

Heinze, A. and Procter, C. (2018). *Reflections on the use of blended learning. Proceedings of Education in a Changing Environment*, University of Salford, Education Development Unit.

Hew K.F., Cheung W.S. (2014). *Using Blended Learning: Evidence-Based Practices*. London, Springer Publ. 123 p.

Kaminskaya, E. (2016). *Teaching with Technology: A Case Study of Online Faculty Development at The University Of Central Florida*”, International Research and Exchanges Board, University of Central Florida.

Kaplún, G. (2006). *Learning and teaching in the internet age*. Distance

learning and new technologies for vocational training, Trazos de la Formación, ISBN 92-9088-216-6.

Kölmel B. and Würtz G. (2005). "The Need for Context-based Assistance and Multimodal Access to eLearning". In "Innovation and the Knowledge Economy: Issues, Applications, Case Studies", Paul Cunningham and Miriam Cunningham (Eds), IOS Press., ISBN: 1586035630

Krasnova T. (2014). A Paradigm Shift: Blended Learning Integration in Russian Higher Education. *Procedia – Social and Behavioral Sciences*, no. 166, pp. 399–403. DOI: 10.1016/j.sbspro.2014.12.543

Launer R. (2010). Five Assumptions on Blended Learning: What Is Important to Make Blended Learning a Successful Concept? *Hybrid Learning*. Berlin, Springer Verlag Publ., pp. 9–15. DOI: 10.1007/978-3-642-14657-2_2 14.

Lowes S. (2014). A Brief Look at the Methodologies Used in the Research on Online Teaching and Learning. *Handbook of Research on K-12 Online and Blended Learning*. N.P., ETC Press Publ. pp. 83–106.

Mantyla, K. (2011). *Blending E-Learning: The Power is in the Mix*, Alexandria, VA: American Society for Training & Development, ISBN 1562863010.

Means B., Toyama Y., Murphy R., Bakia M., Jones K. (2010). *Evaluation of EvidenceBased Practices in Online Learning: A MetaAnalysis and Review of Online Learning Studies*. Washington, US Department of Education Publ., 94 p.

MOHE. (2006). *Palestinian Ministry of Education and Higher Education, Palestinian Higher Education Statistics*. Available at: www.mohe.gov.ps/stats/index.html

Moskal P., Dziuban C., Hartman J. (2013). Blended Learning: A Dangerous Idea? *Internet and Higher Education*, no. 18, pp. 15–23. DOI: 10.1016/j.iheduc.2012.12.001

Oliver M., Trigwell K. (2005). *Can Blended Learning Be Redeemed? E-Learning*, 2005, no. 2(1), pp. 17–26. DOI: 10.2304/elea.2005.2.1.17

PCR. (2011). *Program in Course Redesign (PCR)*. The National Center for Academic Transformation. Saratoga Springs, NY 12866, USA.

www.center.rpi.edu/PCR.htmPells R. (2016). *University Students are Struggling to Read Entire Books*. Available at: <http://www.independent.co.uk/news/education/university-students-are-struggling-to-read-entire-books-a6986361.html> (accessed 17.03.2016).

Procter C.T. (2016). *Blended Learning in Practice*. Available at: www.ece.salford.ac.uk/proceedings/papers/cp_03.rtf (accessed 17.03.2016).

Ramage T.R. (2016). *The “No Significant Difference” Phenomenon: A Literature Review*. Available at: http://spark.parkland.edu/ramage_pubs/1 (accessed 17.03.2016).

Rossett. A. and Frazee, R. (2006). “*Blended Learning Opportunities*”, *Special Report, American Management*. Available at: www.amanet.org/blended/pdf/WhitePaper_BlendLearn.pdf

Singh H. (2006). *Building Effective Blended Learning Programs*. *Educational Technology*, no. 43(6), pp. 51–54.

Stacey E., Gerbic P. (2016). *Success Factors for Blended Learning*. Available at: <http://www.ascilite.org/conferences/melbourne08/procs/stacey.pdf> (accessed 17.03.2016).

Staker H., Horn M.B. (2016) *Classifying K-12 Blended Learning*. Available at: <http://www.christenseninstitute.org/wp-content/uploads/2013/04/Classifying-K-12-blended-learning.pdf> (accessed 17.03.2016).

Valiathan P. (2016). *Blended Learning Models*. Available at: <http://purnima-valiathan.com/wpcontent/uploads/2015/09/Blended-Learning-Models-2002-ASTD.pdf> (accessed 17.03.2016).

Vaughan N.D. (2009). A Blended Community of Inquiry: Linking student and course redesign. *Internet and Higher Education*, no. 13, pp. 60–65. DOI: 10.1016/j.iheduc.2009.10.007

Watson J., Murin A. (2014). A History of K-12 Online and Blended Instruction in the United States. *Handbook of Research on K-12 Online and Blended Learning*. N.P., ETC Press Publ., pp. 1–24.

WB (2006). *The world bank, A Quarterly Publication of the West Bank and Gaza Office, "West Bank and Gaza Update"*, The world bank Group, sep., P10. <http://siteresources.worldbank.org/INTWESTBANKGAZA/Resources/Updat>

[eSept06Eng.pdf](#)

WCET (WICHE Cooperative for Education Technologies). (2016). *The No Significant Difference Phenomenon*. Available at: <http://www.nosignificantdifference.org/> (accessed 17.03.2016).

Welch, R. (2007). *Blended Learning Compliance Obstacles and Solutions, CPE Conference, National Association of State Boards of Accountancy*, Available at: www.nasba.org/nasbaweb/NASBAWeb.nsf/wpmtsd?openform&conference=2007%20CPE%20Conference

Wenger E. (2016) *Communities of Practice: a Brief Introduction*. Available at: <http://wengertrayner.com/theory/> (accessed 17.03.2016).