Competition vs. Experience Sharing: A Case Study in an E-learning Feedback Environment

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The study aimed to explain whether using feedback in an e-learning environment affects students' behaviors to be competitive or cooperative (sharing their experience). The researchers used quantitative case study approach in their investigation. Data were collected by using a questionnaire that measured competition and experience sharing. The study concluded that using feedback in an e-learning environment affects the students' behaviours to be more competitive than sharing their experiences cooperatively. The researchers recommended practicing different types of instructional strategies based on individuals and competitive environments.

Keywords: feedback, e-learning tools, diploma in information and communication technologies (ICT), higher education, instructional technology

Introduction

E-learning can be reflected as a tool of online training to acquire knowledge through the Web. What makes this type of training very adoptable is the increasable number of adult students and in-service teachers besides the lifelong learning, which helps in preparing them with knowledge and skills for succeeding in the knowledge economy (Irvine, 1998). In educational process and instructional design, new technology should be employed effectively with a meaningful pedagogical role rather than being just a content's transmitter. E-learning has become an important methodology that integrated in the teaching and learning process in order to enhance the quality of education (Hussein, 2011). In fact, the use of communication tools on the Web to support teaching and learning is popular in nowadays classroom environments (Harris & Rea, 2009; Goertler, 2009). Communication technologies provide educators and students with several benefits that include, but are not limited to, enhancement of collaboration among students (Beldarrain, 2006), improvement on students' interactivity (Markett, Sánchez, Weber, & Tangney, 2006).

Feedback should be useful for students to maintain their learning; this can be done through reinforcement, so any type of feedback that does not take the crucial variable of motivation into consideration is perhaps doomed to fail (Guenette, 2007). For example, Bitchener, Young, and Cameron (2005) found a significant effect for the combination of written and conference feedback on accuracy levels of English as a second language (ESL) students' writing. In the case of online feedback, Iahad, Dafoulas, Kalsaitzakis, and Macaulay (2004) evaluated the online assessment as a role of feedback in learner-centered e-learning by providing "rich" feedback to students, which was one of the requirements of the learner-centered learning paradigm by online

test, in the form of multiple-choice questions, providing feedback through automatic grading, providing correct answers, and referring the students to the learning content which explains the correct answers. This work can shed light on the importance of the rich feedback to the learner benefits. In face-to-face teaching and learning situation, teachers can give and have feedback directly. While using the Web to follow students' projects, they all need appropriate feedback for their works and assessing their development. McConnell's (2002) findings about the experience of collaborative assessment in e-learning showed that students involved in collaborative assessment agreed unanimously (94%) that the tutor alone should not be the one to assess their course work, this points to the feedback that students can take about their projects by viewing their peers. The students may use the online feedback given by the instructor which could lead them to compete with each other or cooperate in experience sharing form, especially if they live in the same area or district and they already have the communication tools of the Web away of the instructor control.

Background of the Study

Significant funds have been invested by the Ministry of Education in Jordan to train teachers and give them the opportunity to have appropriate competencies of information and communication technologies (ICT), where the teachers were sent in a scholarship to universities to study the new trends and innovations of technologies that can improve their competencies, and at the same time, they would hold a higher diploma of information technology in education. Some of unemployed teachers try to hold that diploma in order to compete and improve their position in recruitment office for employment opportunity as a teacher, while other teachers try to make use of their scores for career development, so the environment of competition or experience sharing may rise.

Competition

It is not surprising that education and competition are intimately related. In other words, it is natural for children to compete and, therefore, it is understandable that competition is put to educational use (Verhoeff, 1997), so competitions are a good measure of how well a discipline is accepted and integrated into the curriculum. Human competition is a contest where two or more people strive for a goal that cannot be shared, usually resulting in a victor and a loser. Individuals and/or groups are then in a position where they must vie for the achievement of an outcome (Cantador & Conde, 2010). Competition can be positive or negative; Cantador and Conde (2010) analyzed the effects of competition in education. They identified the benefits and drawbacks of forcing students to compete themselves during their learning process, by using a simple Web system, where empirical results with 77 students showed that a balance between competition and cooperation is achieved, and the focus on the learning goals instead of on the competition itself remains.

Experience Sharing

Springer, Stanne, and Donovan (1999) mentioned that:

American Association for the Advancement of Science (1989) report advises that the collaborative nature of scientific and technological work should be strongly reinforced by frequent group activity in the classroom. Scientists and engineers work mostly in groups and less often as isolated investigators. Similarly, students should gain experience sharing responsibility for learning with each other. (p. 22)

Therefore, collaborative learning requires interaction and exchange among learners as they share

experiences and solve problems cooperatively (Cho, Stefanone, & Gay, 2002). It is essential that the individuals be aware of moving between individuality and shared activities (Zheng & Yano, 2006).

Naturally, students contact or communicate with each other while their goal mainly at the first place is achieving objectives. Paechter, Maier, and Macher (2010) examined students' experiences in e-learning and their relation to learning achievements and course satisfaction concerning the interaction with peer students, and showed that they can easily and quickly exchange knowledge with other course participants via e-mail, chat, newsgroups, etc., and learning in groups and cooperation with other learners fostered in the course. When it concerns social networks, students can easily share content and communicate with a much wider group of contacts with access to their favourite online social networks (Rodrigues, Sabino, & Zhou, 2010).

In an e-learning environment, the resources and knowledge are available to everyone, so students in all levels have the opportunity to share resources and knowledge, which is one of the most commonly cited advantages of community-based learning. Knowledge can be purchased out of other students' minds, which is mainly concerned as a form of experience sharing among students who participate in the same course; like navigating peers' projects, asking direct questions, establishing groups, social networks, and/or communicate through other means, like mobile phone groups, even though, students share their incidents and experiences through discussion boards in a blended learning environment (Benfield, Roberts, & Francis, 2006).

Study Purpose

The purpose of this study was to explore whether the feedback given to the students will affect their behaviours to be competitive or sharing their experiences cooperatively. To achieve the goal of the study, the study was conducted to answer the following two questions:

1. Does the e-learning feedback environment affect students' behaviours (competition or experience sharing)?
2. Does the e-learning feedback environment affect students' behaviours (competition or experience sharing) according to their district residencies?

Method

The current study is a case study. The primary aim of this study was to quantitatively examine whether students' behaviours are competitive or cooperative (experience sharing). The conducted study took place in a Web-based environment using Weebly and Foliospaces Websites. It was performed in a course called Portfolio and Graduation Project for the students who are participated in the educational diploma in information technology. The subject contents include theoretical aspects about portfolio and the students have to accomplish three projects: (a) an electronic portfolio at <http://www.foliospaces.org> or <http://www.docs.google.com>; (b) an educational site for teachers and students at <http://www.weebly.com>; and (c) an e-learning site as a WebQuest at <http://www.sites.google.com>.

Setting and Sample

The sample included 41 students who are currently participating in Portfolio and Graduation course in Al-Hussein Bin Talal University located in the south of Jordan. There were two classes: Class 2 is in the main campus in a city called Ma'an, while Class 1 is in the far south of Jordan in a city by the sea called Aqaba. Table 1 shows the distribution of the participants.

Table 1

Distribution of the Participants

District	Gender		Residence		Total
	Male	Female	Aqaba	Ma'an	
Aqaba (Class 1)	0	20	20	-	20
Ma'an (Class 2)	8	13	-	21	21
Total	8	33	20	21	41

One of male participants could not complete the course requirement and did not follow up the course sequencing, so he was excluded from the study sample; therefore, the sample consisted of 40 participants.

The course was taken in the summer semester of the academic year 2013-2014 for eight weeks. The instructor had four meetings with each class for the theoretical concepts and setting up standards and criteria of evaluating students' works and how to communicate with the instructor. A Website was designed at Weebly to give feedback to the students, and it was in several forms:

1. Symbolic: It was used by adding stars for each student according to the degree of meeting the standards and criteria of the project required;
2. Text: Text was a corrective feedback rather than explaining how to accomplish the work;
3. Images: Images were used when needed to design the Websites and using templates beside the tools;
4. Links: Links were texted at the instructor's Website when needed for further help;
5. Oral: Oral conversations were used when the students needed more help from the instructor, and all the students have the instructors' phone number;
6. E-mails: Emails were used individually and in some cases (when it was needed for all students) distributed for all students.

Figure 1 shows captures of some instructors' feedback at the Website.

Figure 1. Feedback at the instructor's site (Retrieved from <http://jwaifell.weebly.com/portfolio.html>; Note: Names were erased).

Another example of the image feedback as giving help is shown in Figure 2.

Figure 2. Image feedback.

Concerning developing portfolios, the instructor registered in <http://www.foliospaces.org> and directed his students to develop their own portfolios at this site. Figure 3 is a capture of the instructor's portfolio.

Figure 3. Instructor's portfolio.

In Figure 3, some topics initiated by students and the instructor appear, besides the groups established by the instructor and the students, where every student adds his/her peers and his/her instructor to assure the work he/she has done and how much he/she has maintained his/her portfolio.

The purpose of giving students stars and comments by publishing it at the instructor site is to create an atmosphere where students can follow up peers' work, this can raise questions in the mind of students, such as "How it had been done?", "Can I do the same?", "Should I contact other students to share his/her experience?",

and “Can I give help to the fewer stars?”. Those questions may motivate competition or experience sharing by cooperating with peers and affect their behaviors as a result.

Instrument

In this study, the used instrument was a questionnaire distributed at the end of the semester, which was designed by the researchers to collect information about the students’ use of the e-learning environment and their behaviours with peers. The questionnaire was validated through four referees from the Department of Curriculum and Teaching at Al-Hussein Bin Talal University, where dependability, which reflected reliability, depends on instrument consistency, predictability, stability, or accuracy. The reliability was calculated by using Holsti formula (Holsti, 1969) out of the referees. Questions of the questionnaire aimed to investigate whether students’ behaviours of e-learning feedback environment motivated competition or experience sharing under the scale of frequency of the act: “Very frequently”, “Frequently”, “Occasionally”, “Rarely”, and “Very rarely”. The questionnaire was divided into three parts: (a) demographic and work efforts spent during the semester; (b) 10 questions reflected competition; and (c) 10 questions reflected experience sharing.

Findings and Discussion

The collected data were analyzed in a way to protect the confidentiality of all the participants by filling the questionnaire without writing their names.

Data Analysis

The collected data, in this study, were analyzed quantitatively by using the Statistical Package for the Social Sciences (SPSS). Table 2 shows demographic and work efforts spent during the semester.

Table 2

Participants’ Demographic and Work Efforts

Variables	Aqaba				Ma’an			
	Minimum	Maximum	Total	Mean	Minimum	Maximum	Total	Mean
Friends	1	1	2	1	1	1	2	1
Work hours	1	12	99	4:57	1	12	60	3:00
Daily visits	1	24	73	36.5	1	5	42	2.1

As shown in Table 2, both students in Aqaba and Ma’an have only two friends in the same course section, while students in Aqaba spent more hours daily working on their projects besides the daily visiting of the course Website. When analyzing the nature of residence place, Aqaba’s students residency is not far from each other or the schools where they work; the student group in Aqaba communicate with each other by WhatsApp messenger, beside all of that, they are females when comparing gender with Ma’an’s students (Aqaba: Female = 20; Ma’an: Female = 13; Male = 7). Of all the participants, there are seven males and 33 females. These variables by the nature of gender and residence places made Aqaba’s students more competitive or cooperative with each other than Ma’an’s students, and that can be identified through analyzing the data collected by the measurement tool.

Research Question 1: Does the E-learning Feedback Environment Affect Students’ Behaviours (Competition or Experience Sharing)?

To examine Research Question 1, quantitative approach was used to explore the participants’ behaviours

when using the e-learning feedback environment. They were asked 20 questions; 10 of them were measuring competition, while the other 10 questions were measuring experience sharing. Table 3 shows the students' responses and results of *t*-test for correlated means.

Table 3

Results of T-test

Students' behaviour	<i>M</i>	<i>SD</i>	<i>Df</i>	<i>t</i>	Sig.
Experience sharing	2.6125	0.62887	39	10.192	0.000
Competition	3.6525	0.53301			

Results of *t*-test showed significant difference at $\alpha \leq 0.05$ between the means of students' behaviour whether they share their experience with each other or compete for the benefit of competition. Result can be referred to career competition, while 94% of the participants are teachers, so they have to compete with each other for having a good average to improve their position in work, thus, the Ministry of Education of Jordan gives the teachers who hold the diploma degree better position as a school principal or administrative position, such as a supervisor.

Research Question 2: Does the E-learning Feedback Environment Affect Students' Behaviours (Competition or Experience Sharing) According to Their District Residencies?

To examine Research Question 2, quantitative approach was used to determine the participants' behaviours distribution when using the e-learning feedback environment. The means of each student's total responses for both (competition and experience sharing) ranked as shown in Table 4.

Table 4

Ranking of Students' Responses

	Very frequently	Frequently	Occasionally	Rarely	Very rarely
Rank	5	4	3	2	1
Classes	1.00-1.80	1.81-2.60	2.61-3.40	3.41-4.20	4.21-5.00

Results of experience sharing. The items concerning experience sharing were calculated as frequencies. Table 5 shows the students' responses and Chi-square results.

As shown in Table 5, Chi-square showed significant difference among the distributions of students' behaviours in experience sharing according to residence. In items 1—"I initiated communication with my colleagues to ask them about their projects" and 7—"Communicating with the ones in the same section who have few stars to help them", it appears that Ma'an's students asked "Very frequently" than Aqaba's students, while Aqaba's students, on the other hand, asked "Frequently" and "Occasionally" more than Ma'an students. This result can reflect the demographic status of Aqaba's students and the nature of their city mentioned above. Other results of Chi-square showed that behaviours of experience sharing do not differ according to residence place which are expressed by the items 2—"Others initiatives to communicate"; 3—"Helping others in designing Websites"; 4—"Other helping"; 5—"Publishing worksheets to help others"; 6—"Informing others for new function to do"; 8—"Focusing on reviewing projects of the ones who have few stars"; 9—"Starting a group to help other students in both sections"; and 10—"Informing the instructor about the mistakes that students fall in".

Table 5

Participants' Behaviours of Experience Sharing and Chi-square Results

Experience sharing													
Item	Residence	Very rarely		Rarely		Occasionally		Frequently		Very frequently		Chi-square	Sig.
		E	C	E	C	E	C	E	C	E	C		
1	Aqaba Ma'an	-	-	-	-	4.5	7 2	6.5	8 5	9	5 13	7.026	0.03*
2	Aqaba Ma'an	1.5	2 1	1.5	1 2	5.5	8 3	8	8 8	3.5	1 6	6.511	0.164
3	Aqaba Ma'an	2	2 2	1.5	2 1	9	11 7	4	3 5	3.5	2 5	3.008	0.556
4	Aqaba Ma'an	4	3 5	1.5	2 1	7.5	11 4	5	3 7	2	1 3	6.7	0.153
5	Aqaba Ma'an	6	9 3	3.5	4 3	7.5	5 10	1.5	2 1	1.5	0 3	8.143	0.086
6	Aqaba Ma'an	1	1 1	1	0 2	8.5	10 7	6.5	7 6	3	2 4	3.273	0.513
7	Aqaba Ma'an	8	13 3	3	1 5	6	3 9	2.5	3 2	0.5	0 1	13.117	0.011*
8	Aqaba Ma'an	6.5	9 4	3	2 4	6	6 6	3	3 3	1.5	0 3	5.59	0.232
9	Aqaba Ma'an	8.5	11 6	4	4 4	3	3 3	4	2 6	0.5	0 1	4.471	0.346
10	Aqaba Ma'an	16	16 16	2.5	2 3	1.5	2 1	-	- -	-	- -	0.533	0.766
Total	Aqaba Ma'an	1	1 1	15	17 13	4	2 6	-	- -	-	- -	2.533	0.282

Notes. E: Expected count; and C: Counted.

When comparing the mean differences of experience sharing according to residence place, means and standard deviations were calculated and independent samples *t*-test was used (see Table 6).

Table 6

Participants' Behaviours of Experience Sharing and T-test Results

Residence	<i>M</i>	<i>SD</i>	<i>Df</i>	<i>t</i>	Sig.
Aqaba	2.555	0.5626	38	2.809	0.008
Ma'an	3.070	0.61138			

Results of *t*-test showed significant differences at $\alpha \leq 0.05$ of participants' behaviours in experience sharing for the favourite of Ma'an residence section.

Results of competition. The items concerning competition were calculated as frequencies. Table 7 shows the students' responses and Chi-square results.

As shown in Table 7, Chi-square showed significant difference among the distributions of students' behaviours in competition according to residence. In item 5—"I communicated with my colleagues who had few stars in the same section only", Ma'an's students communicated "Rarely" and "Occasionally", while Aqaba's students communicated "Very rarely". In item 7—"I initiated a discussion group to help my colleagues, in the same section", Ma'an's students initiated groups "Very frequently", "Frequently", and "Occasionally",

while Aqaba's students "Rarely" initiated groups. These results show that Ma'an's students are more competitive than Aqaba's students in those items. Concerning other items, there was no significant difference between both sections (Ma'an and Aqaba) in all other items, which are items 1—"First thing is detecting my stars"; 2—"Making comparison with others"; 3—"Focusing on the ones' sites that have many stars"; 4—"Communicating only the ones who have many stars"; 6—"Helping only the ones who have few stars within my section"; 8—"More effort to do in the last week of the semester"; 9—"Focusing on the instructor's notes"; and 10—"Paying attention to know more about the experiences of the ones who had many stars".

Table 7

Participants' Behaviours of Competition and Chi-square Results

Item	Residence	Competition										Chi-square	Sig.
		Very rarely		Rarely		Occasionally		Frequently		Very frequently			
		E	C	E	C	E	C	E	C	E	C		
1	Aqaba Ma'an	-	-	1	1	2.5	4	1.5	1	15	14	2.267	0.519
2	Aqaba Ma'an	1	2	1	2	3	2	3.5	2	11.5	10	4.534	0.339
3	Aqaba Ma'an	0.5	1	1	1	3	3	1.5	1	14	14	1.333	0.856
4	Aqaba Ma'an	5.5	8	3.5	4	7	6	2.5	1	1.5	1	4.835	0.305
5	Aqaba Ma'an	6	11	5	2	5.5	3	3.5	4	-	-	14.349	0.002
6	Aqaba Ma'an	4.5	7	4.5	5	9	7	0.5	0	1.5	1	5.111	0.276
7	Aqaba Ma'an	5	6	2	3	6.5	4	3	1	3.5	6	9.561	0.049
8	Aqaba Ma'an	1	2	-	-	5	5	6.5	7	7.5	6	2.677	0.444
9	Aqaba Ma'an	-	-	-	-	2	2	3.5	2	14.5	16	1.596	0.45
10	Aqaba Ma'an	0.5	0	-	-	1.5	2	3.5	4	14.5	14	1.511	0.68
Total	Aqaba Ma'an	-	-	1.5	2	5	8	12	8	1.5	2	6.933	0.074

Notes. E: Expected count; and C: Counted.

When comparing the mean differences of competition according to residence place, means and standard deviations were calculated and independent samples *t*-test was used (see Table 8).

Table 8

Participants' Behaviours of Competition and T-test Results

Residence	<i>M</i>	<i>SD</i>	<i>Df</i>	<i>t</i>	Sig.
Aqaba	3.480	0.56995	38	2.139	0.039
Ma'an	3.825	0.44233			

Results of *t*-test showed significant differences at $\alpha \leq 0.05$ of participants' behaviours in competition for

the favourite of Ma'an residence section.

Conclusion

The study revealed significant results of using feedback in an e-learning environment in how it affects the students' behaviours to be more competitive than sharing their experiences cooperatively. Students in Ma'an are more competitive and act more cooperatively than students in Aqaba. While Internet and e-learning environments are available in Web 2.0, instructors can make use of those technologies to insure quality in education and build a very interactive environment which can help students be more active and achieve their goals in a competitive environment. It is the nature of human beings to prove themselves in life.

Recommendations

According to the findings of this study and related conclusions, the researchers' suggestions for universities and instructors are related to two major aspects. The first one is to train teachers to gain e-learning design skills based on the existence of Web 2.0. The second one is to practice different types of instructional strategies based on individuals and competitive environments. The researchers recommended a larger-scale replicate study with a larger number of participants, schools, and with other disciplines. Quantitative/mixed-method research studies should be conducted with a large students sample to explore the impact of using feedback in an e-learning environment on students' achievement.

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