An Investigation into Learners' Motivation in an Online Environment

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Abstract

This case study aims to investigate the forces and barriers to learners' motivation in a blended learning environment. This study uses an online forum as a vehicle for useful interaction among learners and as an extension of traditional classroom face-to-face meetings. 48 first-year students in a UAE university participated in this study. A series of data were obtained through questionnaires and feedback from the students, which were subsequently analyzed and compared to the existing literature. The results revealed that online interaction can enhance learners' motivation and engagement in the learning process.

1. Introduction

This research aims to investigate the effect of online interaction on learners' motivation, with particular reference to a group of first-year baccalaureate students at Zayed University in the United Arab Emirates. The impetus for this study came from earlier research on students' engagement in a blended-learning environment at Zayed University that warranted further inquiry (Patronis, 2003).

Collis and Moonen (2001) define blended learning as a hybrid of traditional face-to-face and online learning so that teaching and learning occur both in the classroom and online, and where the online component becomes a natural extension of traditional classroom learning. Following a study on the assessment of the effectiveness of a managed learning environment (MLE), known as StudyNet, teachers at the University of Hertfordshire realized the need to balance e-learning with continued face-to-face contact with students. They noted that an MLE was an enhancement rather than a replacement tool for learning. According to Thornton, et al (2004), blended learning can offer more enriched learning experiences. They noted "In an ideal world, and at its best, teaching and learning in the twenty-first century will blend seamlessly active learning strengths in technology with those best delivered face-to-face. The result is a potentially more robust educational experience than either traditional or fully online learning can offer."

Computer mediated communication (CMC) is characterized by highly interactive, multi-way synchronous or asynchronous communication (Romiszowski & Mason, 1996). Asynchronous and synchronous tools provide opportunities for active input from all members of the online classroom and support learner-centered learning environments. Keegan (1988) viewed interaction as a key to effective learning and information exchange.

Maehr (1984) asserts that motivation is one of the most important components of learning in any educational environment. Motivation has been defined by Maslow (1970) as a psychological process where a behaviour is directed toward a goal based on individual needs. Whilst Keller (1999) argued that learner motivation can

be affected by external aspects, such as positive engagement by tutors and peers, Lee (2000) reported the importance of motivation on learners' performance, particularly in a technology-mediated environment.

Whilst the importance of learners' motivation, their interaction and the benefits of blended learning have often been reported, little is known about what motivates and discourages online learners in a UAE university. This begs a number of fundamental questions about the types of interaction that take place among faculty and learners, the influences on this interaction, and the barriers that learners face whilst interacting online with their peers and course instructor.

This research paper attempts to shed light on how online interaction affects students' motivation, and hence their learning. The knowledge gained from this investigation will contribute to understanding the online modality of education and help educators to select the most appropriate technological and motivational methods to improve learning.

2. Context of the study

Background information on the institution and students, as well as the course design and method of delivery, are provided in this section.

2.1 The institution

Zayed University was founded in 1998 to cater exclusively for UAE national female students specializing in the fields of business studies, communication and media sciences, education, information systems and arts and sciences. The university is based on an American model featuring a 2-year readiness program for students who lack English language competency, 2 years of general education and a further 2 years of specialization in a major.

From the outset, this particular university initiated a large-scale project through which every student owns a laptop computer. Presently, more than 3,000 students are equipped with modern laptops and access to internet connection on campus and from home. All courses are available online via the Blackboard Course Management System, whose potential use ranges from posting grades and course information to online delivery.

2.2 The students

The majority of the students attending Zayed University attended national public schools, and were taught in Arabic. They generally received a few hours a week of English as a second language and were exposed to teaching methodologies in primary and secondary schools that were based on traditional techniques of transmitting and reproducing specific information. As part of their general education at Zayed University,

students are assisted in developing study skills and strategies for learning to develop their capacity to be self-directed, lifelong, autonomous learners.

Some of the key characteristics of the 48 students participating in the study are summarized in table 1.

Table 1. Key characteristics of the students participating in the study

Gender	Female
Age	All are 17–20 years of age.
Student status	First semester and and second semester students.
Computer literacy	All are well-versed in using IT. Their IT skills include using chat environments, blogging and SMS, and they receive a minimum of 3 hours a week of IT instruction in the university.
Access to the internet	All have access to the internet from home and campus (Patronis, 2003).
English language competency	All have a TOEFL score of 500 or above.
Familiarity with an online environment	All have been oriented to Blackboard at the beginning of these courses.

2.3 Method of course delivery

The setting for this study is General Education (Colloquy) courses, which are taught during the first three semesters of the baccalaureate program. These courses are aimed at introducing students to the university and to career education: COL-120 (*Colloquium: The City*) and COL-105 (*Career Exploration*) both last one semester. During the second week of Fall 2004, students in 3 sections of the first-year baccalaureate program (18 students in one section of COL 120 and 30 students in two sections of COL 105) received training to enable them to log in to Blackboard, read questions, and post their answers on the Blackboard Discussion Forum. None of the students had previous experience with the Forum. The students were encouraged to contribute to the Forum as a way of extending learning outside of class. In these courses, students were primarily assessed in a traditional manner through exams and in-class quizzes, and although participation in the Forum was not directly graded, students were made aware that participation would act as a platform for them to develop better understanding of the course and potentially achieve better grades.

2.4 Course design

The courses of the case study ran over a period of 18 weeks. They were organized in a cooperative and collaborative learning format, and were designed to encourage students to take responsibility for their learning by initiating threads, responding to questions and writing summaries. The courses comprised

several components, each complementing the other by providing more detail and giving greater flexibility to the students in their learning process. According to Moore and Kearsley (1996), the “transactional distance” between students and instructor can be reduced by dialogue, but also increased by structural elements: learning objectives, content themes, information presentations, case-studies, pictorial and other illustrations, exercises, projects, and tests. The structural elements of the course studied here included:

1. Traditional, face-to-face class meetings two-three hours a week were held, in which I presented the topic and led pre-reading discussions with the class.
2. Course materials (including required and supplemental readings on Business, IT, Education and other major disciplines, powerpoint presentations and syllabi) were posted under Course Documents on Blackboard prior to launching the course. This online material was intended to provide students with easy access both on and off campus, either online or in printed form.
3. Forums were opened for each chapter/topic of the course. Students were invited to post their reaction to the required readings, take part in the discussions, and comment and respond to others. The online component of the courses consisted of weekly assignments, summaries of the readings, discussions, questions and reflection on the learning process.

A general outline of the course design is shown in Figure 1, outlining the interaction between the various stages of student participation at home, in class, and online.

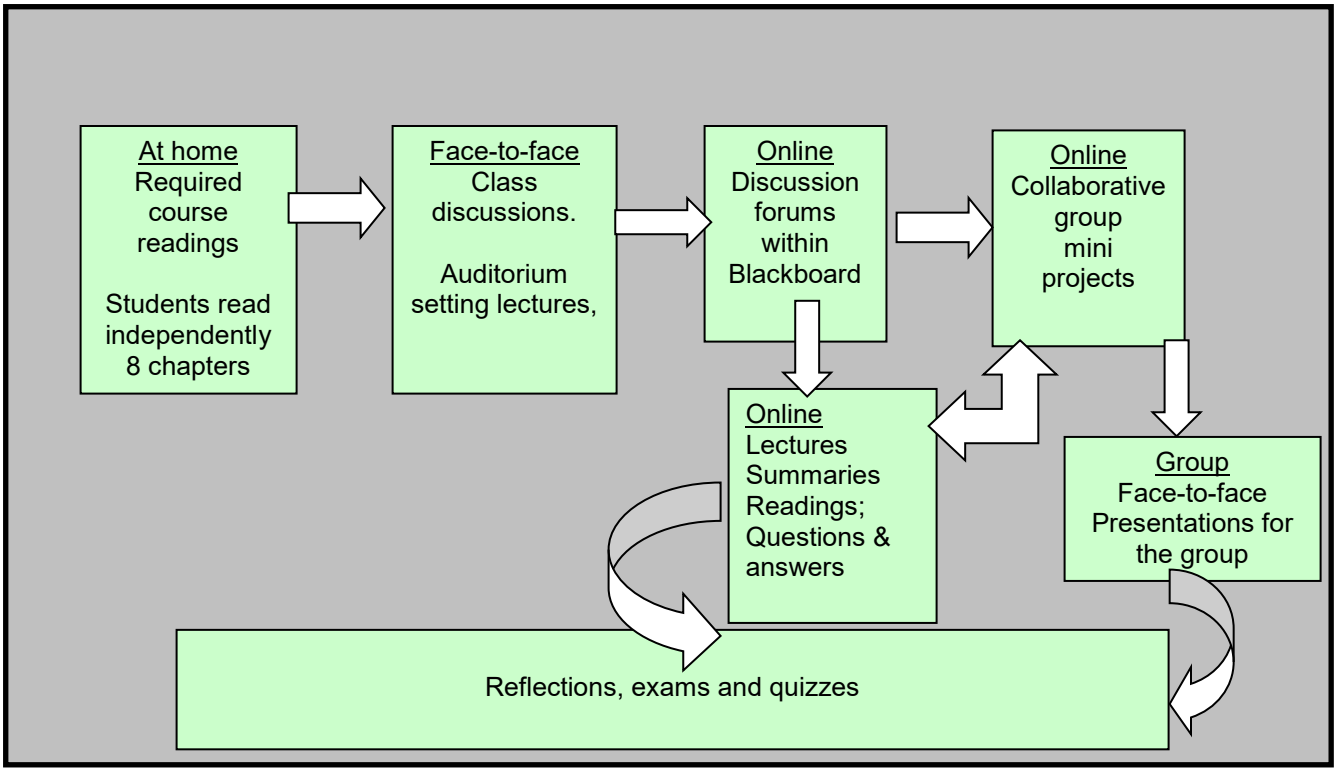


Figure 1: The course design as blended learning

3. Research methodology

The research methodology, adopted in this study involved a questionnaire and also students' responses in the form of a discussion forum. The survey questions were created by the researcher/course instructor based on the ARCS motivational model developed by Keller (1987), which considers the following 4 motivational requirements of learners:

1. Learners' *attention*;
2. *Relevance*, where learners see the connection between what they need to know and the new information presented to them;
3. *Confidence*: the positive expectations of learners; and
4. *Satisfaction*: learners' positive learning outcomes, often driven by intrinsic reinforcement and extrinsic reward through feedback.

The survey comprised 14 multiple-choice questions on a 1-5 Likert scale and sought students' perceptions and their experiences of online interactions with their peers and the course tutor (see Table 2 for details). Also, the issues of technology, message overload and language and communication were covered in the same questionnaire.

As the students involved in the study were second-language learners of English, the phrasing of the questions was carefully considered. The survey was randomly piloted on 3 students from the same population which helped in refining the questions further and enhanced the language clarity.

The finalized questionnaire was administered online in the middle of the semester to all 48 students taking part in the study. The responses were registered online using Blackboard, and all 48 students responded.

Table 2 List of questions in the survey

Q1	I find friends' comments on the discussion board encouraging.
Q2	My friends' feedback on the discussion board helps me improve my work.
Q3	On the discussion board I find my friends' ideas understandable.
Q4	I find providing feedback to others encouraging.
Q5	Friends' summaries and messages are helpful and useful.
Q6	Interactions between students and instructor are helpful.
Q7	Instructor's presence in the discussion board is motivating.
Q8	I find the instructor's feedback encouraging.

Q9	I have difficulties accessing Blackboard.
Q10	I have technical difficulties.
Q11	I do not have enough time to post messages.
Q12	The discussion board is dull and boring.
Q13	There are too many questions to follow.
Q14	I am not able to express myself in writing in English.

In the middle of the semester a discussion thread was also initiated by the course tutor, which ran concurrently with other forums. The thread, entitled “Your Views on Motivation” was opened in the café area of Blackboard. The thread was used for discussions of specific issues relating to students’ motivation and engagement in the online interaction. Students were asked to describe their experiences of online learning and how these experiences helped or hampered their engagement in online learning. Although students were given the option of posting anonymous messages, there were no objections and most contributions were made known. Nearly everyone contributed to this thread. The course tutor initiated the discussion and acted as an observant participant in this forum.

4. Presentation of findings and discussion

4.1 Survey findings

Following the data collection and a check for errors and data integrity, the raw data were analysed. The percentage values of respondents answering “agree” and “strongly agree” combined together are shown in Figure 2.

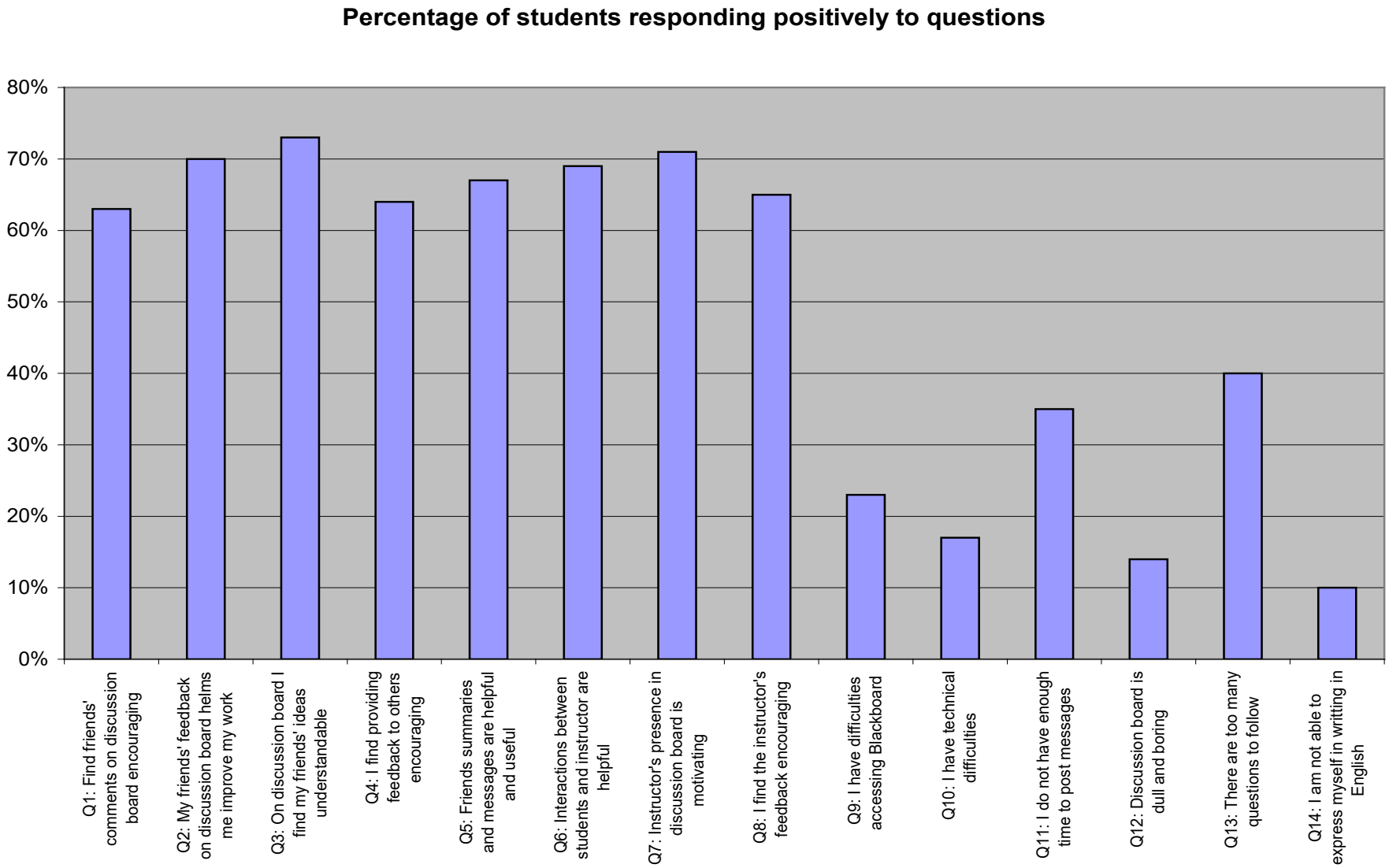
According to Hillman et al., (1994), learners’ skills in using technology influence the success of learning. However from the students’ responses in Q9 and Q10 in this study, no technical difficulties were reported in accessing Blackboard. This is not surprising, as these students are very well equipped with up-to-date laptops, are very well versed in using technology and have unlimited access to Blackboard both on and off campus. Also interesting is the fact that although the majority of the students taking part in the survey are second-language learners of English, they are comfortable with the text-based medium of communication. This contradicts the assumption that second-language learners are reluctant to post textual messages online. As shown by the students’ responses in Q12, the discussion board is perceived as neither dull nor boring, despite the lack, in this particular design, of animations, video or other visuals which are often thought to be attractive and stimulating to learners.

According to students’ responses in Q11 and Q13, there is some evidence to suggest there may not always be enough time to respond to questions and there may be too many questions to follow-up at times. This situation can be considered a potential barrier, which is also highlighted in the literature (Hara et al., 1998).

With regard to students' experience in online interactions with their peers, the survey elicited high positive responses between 63% and 75% (Q1, Q2, Q3, Q4 and Q5). The students' response in Q3 - "on discussion board I find my friends' ideas understandable" scored the highest percentage, followed closely by Q2, with a 70% score – "my friends' feedback on discussion board helps me to improve my work". These constitute motivating aspects in terms of Keller's (1987) concepts of relevance and student satisfaction.

Similarly, students reported the importance of the instructor's presence and feedback (see Q6, Q7 and Q8) with Q7 - "instructor's presence in discussion board is motivating" - scoring the highest percentage. This demonstrates the important role that the instructor's presence plays in the success of an effective online environment.

Figure 2: Graph showing the percentage of students responding positively to questions



4.2 Discussion board transcripts

During the course of the semester 1,383 messages were posted online. In all 200 threads were initiated by students, compared with 22 threads initiated by the course tutor. The high level of engagement in the online environment is also evident in the content of students' responses in discussion board transcripts.

Students felt that online interaction enriched their engagement in the learning process. What seems to emerge clearly from their responses is that what learners look for in the Forum is a chance to learn from and with others, ideally by engaging in dialogue but also by being able to read the views of others. As one student commented, "The discussion board is very helpful simply because it shows different answers from different perspectives. This forum changed my thinking. When I write something and I believe that it is true, it changes the moment I read others' perspectives and writings".

In addition, data revealed that students recognized and valued each member's contribution to the learning process. In agreement with Moore (1989), this student stated that a learner's satisfaction with an online learning environment is related to the amount of interaction with other learners. She noted that peer and instructor contributions rather than the software in isolation can enhance the learning environment: "It is not Blackboard. Students and teachers make it fun or boring, so it depends on them". Another student added, "It helps me share my ideas with others, helps me gain knowledge and get different viewpoints of my peers and instructor". This student was primarily motivated by active colleagues. She stated: "My active colleagues motivate me".

Creating a safe learning environment through positive social relationships can support online interactions, as this student indicated: "The discussion board allows me to stay in contact with you people and with your views". Another respondent refers to the café as enjoyable space for exchanging ideas: "accessing the café area from anywhere, anytime makes me enjoy exchanging information with my classmates". These comments support the view of Coppola et al., (2002) of the affective role of online learning, which concerns relationships with students and requires new tools to express emotion while making the relationships more intimate.

Others commented on the new mode of delivery as being motivating: "What motivates me in Blackboard is the new style of learning"; "The new system of e-learning motivates me a lot". Niven et al. (2002) suggest that one of the online learner's motivational factors has mainly to do with curiosity from experiencing a new style of learning.

Accessibility and convenience were also noted as motivational factors: "I think that what makes me motivating me is the fact of being connected to the internet 24/7. We can easily enter the

discussion board from the university, home or wherever you can reach the internet. They have really posted extremely important responds that I really found useful for my own understanding of the textbook! I just like to keep reading what they are thinking about. It really expands my knowledge".

Facilitator feedback has been found to motivate learners. Niven et al. (2002) suggest that frequent, nonjudgmental feedback is one of the most mentioned motivating factors of online learning. Instructors positively affect students' motivation, course engagement and learning achievement. Positive feedback motivated this student, who commented on her instructor's encouraging feedback: "I always like to hear someone encouraging me to do something. I like my teacher who always encourages me. That gives the student a better feeling and sense of confidence, which helps them do their best plus the encouraging comments they get from friends."

Whilst the benefits were reported by the majority of students, some expressed their discomfort with the medium. Reasons were identified for a low level of contribution by some students: anxiety, technical problems, inaccessibility and time pressure were reported as barriers to engagement. Students' prior experience with technology has been found in the literature as one of the factors that influence interaction in an online environment (Vrasidas & McIsaac, 1999). Students uncomfortable with technology would observe their peers moderating online discussions, and as a result, they too would learn how to do it.

Niven et al. (2002) found that learners greatly appreciated facilitator responses which took onboard their initial anxieties. This student commented on how she felt anxious in the beginning because she did not know other students or the course instructor. Her anxiety soon faded when her own sense of community developed by interacting with her tutor and others with similar interests and of similar age: "At the beginning it was very tough on me because I didn't know the girls nor the course instructor, but as I logged on constantly, and through the tutor's encouraging comments, I started to talk to girls of my own age, share ideas with other classmates, make them know more about me and me know more about them. Through this new way of discussing an idea, we often helped each other."

Although reporting of technical difficulties and inaccessibility was rare among participants, one student's absence from the Forum can therefore be explained by at least temporary inability to access a computer physically. As she explained, "until I figure it out I get disconnected". Another student reported an overload of communication. This situation is possible when students join in late in an active forum, or do not check the forum daily. They can lag behind and find it difficult to

catch up, as with this student: “Sorry for not contributing a lot on blackboard. It’s because sometimes I get lost in the discussion and the subject”.

Unlike face-to-face communication, text communication lacks nonverbal cues such as facial expressions and tone of voice. It follows that if less information is transferred in text communication for the same number of words, then information transfer is more labor intensive, or ’onerous’, as Lally and Barrett term it (ibid: p. 157). This barrier is exacerbated by the large quantity of information that needs to be transferred in the process of group discussion, which “can be awkward and time-consuming online”, as Kaye notes (1991: p. 22). ‘Lurkers’ often read postings but do not respond (Shapard, 1990), like one student who says: “Sometimes, I get too busy to respond to the questions, although I constantly log on and see what others have posted.”

5. Conclusion

In summary, the findings of this case study suggest that human interaction (peer-to-peer and student-to-instructor) are equally perceived to contribute to students' motivation in this particular blended-learning environment. Furthermore, textual-based communication was not found to be a barrier to these learners' engagement in the forum, despite the fact they are second language learners.

In light of this study it is recommended that a successful online course needs to take into account the instructional design and delivery that facilitates effective interactions with peers and instructors, and allows for early and ongoing communication between participants. The patterns and quality of human online interaction also determine the level of a learner's motivation. However, learning how and when to use effective techniques of online instruction require significant time and effort by tutors. Hiltz (1994) concluded that the instructors' skill in an online environment are critical and dependant upon faculty efforts and skill in teaching online.

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