Online Learning Participation in an Asynchronous Environment: A Case Study in an Online and Distance Learning University in Malaysia

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ARTICLE INFO: Received: **10 Dec 2020**; Revised: **17 May 2021**; Accepted: **07 June 2021**; Available Online: **14 June 2021**

Abstract

Learner participation is related to communication and interaction skills. This study intended to identify the types of online interactions which occurred in a selected first-year compulsory course and determine the relationship of online interaction with course achievement. A sample of 116 learners were randomly selected from the Introduction to Communication course offered to first-year undergraduates at an open and distance learning university in Malaysia. Data were extracted from online interaction reports, learners' assessment records, and a set of questionnaires filled by 20 respondents. The findings show that interaction during online participation is primarily learner-instructor and learner-content whilst learner-learner interaction is lacking. No pattern is found in the learners' online participation and course assessment scores. Appropriate construction of online roles and an understanding of how communities of online learners develop have been discerned from this research. These are important in sustaining discussion forums in online learning. Monitoring students' participation and patterns of participation could help instructors identify and develop strategies to ensure successful course completion by the learners.

Keywords: *Online Interaction, Online Learning, Open and Distance Learning, Asynchronous Learning, Online Participation*

Introduction

The purpose of this study was to identify the types of online interactions which occurred in a selected first-year compulsory course and determine the relationship of the online interactions with course achievement. There are three types of interaction during online participation as put forth by Moore et al. (2016), namely, learner-learner, learner-instructor, and learner-content. In a typical open and distance learning (ODL) institution of higher learning, blended learning is the mode of instruction used in teaching and learning. In the blended learning mode, there are basically three components for learning, which are, face-to-face seminars, online interaction, and self-learning. The general proportion of these three components in a typical 120 hours (3 credit hours) course are: 15 hours of face-to-face seminars, another 15 hours of online learning, and 90 hours of self-learning. For online learning, a learning management system (LMS) is the platform used by tutors and learners to share resources and undertake teaching and learning activities. Waters & Gasson (2006) asserted that LMS is used extensively in higher education.

Online learning refers more often to fully online courses which are designed to be offered fully over the Internet and user-web based materials and activities made possible through various course management systems and other software systems (Meyer, 2014). Synchronous learning environments are settings where learning occurs in real time (Coogle & Floyd, 2015) and might incorporate activities such as an instructor lecture, collaborative activities, and student questions. All members of the course are logged on at the same time during each class meeting. Asynchronous online participatory learning involves a series of highly complex and ill-defined activities that require participants to reflect and question their traditional learning practices while developing a new identity as a learner (McNair, 2015). *Greller et al. (2014) asserted that learner online participation and commitment contribute to their course completion and academic success. Self-assessment and discussion activities in online interactions also act as a means to assess learners' academic standards (McLoughlin & Luca, 2001; McLoughlin & Luca, 2002).*

The success of community development efforts in an asynchronous text-based learning environment is often associated with how much participants feel present within the shared space. Works such as the study by Garrison et al. (2000), which was related to the community of inquiry model, played a considerable role in bringing attention to the value of presence in online asynchronous learning environments. These works heightened interest among researchers and practitioners in how social presence, teaching presence, and cognitive presence affect participants' level of engagement. Garrison & Cleveland-Innes (2005) also found through a multi-case comparison study of asynchronous courses that participant interaction alone does not instil a shared feeling of social presence or engagement in an online course. They found that participants of asynchronous online courses need structures placed by the instructor/designer or participants themselves to help them engage in meaningful learning activities. By understanding presence and its relation to participant engagement in a course from its physical, social, emotional, and psychological aspects, designers of online learning environments are able to understand the inherently social nature involved in human learning that needs to be carefully addressed in asynchronous learning environments (Lehman & Conceição, 2013).

Research Objectives

This research is based on the data obtained from learner interaction in an ODL university's virtual learning environment forum for an Introduction to Communication course, assessment reports, and qualitative data from a survey. The main objectives of this research are to:

i. Identify the types of online interactions that occur in the asynchronous forum for the Introduction to Communication course.
ii. Determine the relationship between online interactions and course achievement.
iii. Determine students' perceptions of their online learning and involvement.

Literature Review

Studies on online interaction and activities as well as asynchronous and synchronous learning are presented in this literature review.

Online Interaction and Activities

Teaching is an interactive act. In the classroom, communication between the teacher and pupils goes on constantly as initiatory or responsive acts. This communication is called "interaction". Hafen et al. (2015) defined classroom interaction as a pattern of verbal and non-verbal communication and the types of social relationships which occur within classrooms. Wagner (1998) defined interaction as "reciprocal events that require at least two objects and two actions. Interaction occurs when these objects and events naturally influence one another". Therefore, interactions do not occur only from one side, as there must be a mutual influence through the giving and receiving of messages in order to achieve communication (Rahman, 2014).

The traditional classroom involves a normative teaching style whereby students listen to a teacher in a classroom environment and have face-to-face interactions (Holloway, 1994). The academic world assumes that traditional education is the ideal mode of educational delivery. It serves as the gold standard against which all forms of alternative education are evaluated (Wilson & Peterson, 2006). However, Garrison (2000) reported that the traditional lecture mode of delivery has medium levels of student-teacher interaction, low levels of student-student interaction, and medium to low levels of student-content interaction. Moreover, the traditional classroom approach fails to satisfy the educational demands of students who have job and family commitments.

Interactions in a classroom play a pivotal role. These are a great solution for creating successful interactive systems and interaction design in teaching and learning processes (Garrison, 2000). Teachers and students share and receive messages to achieve a communicative process since it is a reciprocal effect requiring them to exchange thoughts and feelings (Sür & Delice, 2016). This interaction process covers verbal and non-verbal actions to promote learning in the classroom. Applying the right patterns of interaction is a fundamental factor in the success of any activity and the achievement of aims. In the classroom, different interaction patterns may support the aims of different kinds of activities such as pair work and group work. Changing interaction patterns helps vary the pace while choosing the right pattern helps achieve learning aims and productivity (Mulya Sari, 2018).

Traditionally, educational interactions have been based upon oral communication between teachers and learners. Oral communication tends to be fast-paced, spontaneous, fleeting, and less structured than text-based communication. Notwithstanding what might be considered less-than-ideal characteristics for disciplined and rigorous thinking, experience has shown that oral critical discourse can facilitate critical thinking at least in well-moderated small seminar groups. Moreover, oral communication in a face-to-face context provides multiple non-verbal or paralinguistic cues such as facial expression and tone of voice. Socially and emotionally, face-to-face oral communication is a rich medium (Garrison et al., 2012).

In contrast, written communication might be termed a lean medium, in that much of the information that creates and sustains the group dynamic of face-to-face groups is simply not transmitted. When writing or a text-based medium, such as computer conferencing, is used for educational purposes, questions may arise as to whether this leaning down of the communication channel through the screening out of much non-verbal and paralinguistic communication detracts from the quality of learning. On the other hand, the effects are not necessarily all negative. Compared to traditional, oral classroom interaction, computer conferencing would appear to offer not only potential deficiencies but also some advantages (Garrison et al., 2012). One advantage is that text-based communication provides time for reflection. For this reason, written communication may actually be preferable to oral communication when the objective is higher-order cognitive learning. Some of the literature does, in fact, suggest that written communication is very closely connected to careful and critical thinking (Olson, 1984). Reflective and explicit nature of the written word encourages discipline and rigour in our thinking and communication. In fact, the use of writing may be crucial when the objective is to facilitate thinking about complex issues and deep, meaningful learning. The use of writing as an adjunct means of communication even in face-to-face learning situations (outlines on whiteboards, overheads, written handouts) lends support to this supposition (Garrison et al., 2012).

Analysing the patterns of interaction has been a research interest leading to a major direction in educational research. Numerous studies in this area had aimed at revealing the complexity of foreign language classroom interaction. A study by Zhang et al. (2018) claimed that the patterns of interaction between participants change by producing a variety of discourse acts, including initiation-response-feedback patterns in student-teacher talk. It further showed that male students were more willing to interact with their teachers than female students. The findings also revealed that the high portion of teachers' domination in classroom talk did not influence students to initiate exchanges with their teachers and provide follow-up to their teachers' responses (Mulya Sari, 2018).

Interaction is one of the central issues in distance education (Abrami et al., 2011; Hisham et al., 2005; Su et al., 2005). According to Banna et al. (2015), interaction is an important component of any learning experience because it encourages reflection and discussion. Since learning is a social activity that requires interaction with the instructor, among students, and with the course content, many researchers and distance education workers agreed that interaction is the critical factor that facilitates learning in distance education (Selim, 2007). Interaction makes online learning effective.

Types of Interaction

Interaction in open distance education is important for effective learning and retention. There are three types of interaction that are essential for the e-learning environment, according to Moore (2016):

i. Learner-learner: Interaction happens between two learners or among a group of learners taking the same course. It can happen with or without an instructor present.
ii. Learner-instructor: Interaction happens when an instructor provides information, feedback, encouragement or guidance to a learner. It also takes place when a learner asks an instructor questions or communicates with him or her regarding the course.
iii. Learner-content: Interaction happens when students obtain information directly from learning materials. It takes place whenever they interact with the text or are deeply engrossed with the content.

Applying these three types of interaction is beneficial to learners, and ignoring any of the three will affect the learning process, as suggested by Moore (2016) who asserts that these are the minimum types of interaction that need to be agreed upon by distance educators. According to Moore (2016), interaction between learner and content is the gist of the e-learning process as it brings about the changes in the learner in aspects of understanding, perspective and cognitive structures.

The interaction between a learner and an instructor is regarded as an essential element of e-learning by many educators since the learner will have the opportunity to interact with the expert who prepared the subject material. Experts present information, demonstrate their skills, and model certain attitudes and values, according to Moore (2016). He further reiterates, “instructors provide counsel, support, and encouragement to each learner, though the extent and nature of this support vary according to the educational level of the learners, the teacher's personality and philosophy, and other factors.”

Learner-learner interaction is a new dimension of distance education, whereby the learner interacts with other learners alone or in group settings, with or without the real-time presence of an instructor, and extremely valuable, and sometimes essential, resources for learning (Moore et al., 2016).

Asynchronous and Synchronous Learning

Preparing education through online learning environments has become more available than ever before and is continuing to grow (Allen & Seaman, 2010; 2013; Crawford-Ferre & Wiest, 2012; Skylar, 2009; Stryker, 2011). The opportunity of online courses is appealing as participation in class allows students the flexibility to continue working while completing their degree. Other appealing aspects of online courses include geographic, financial, and reduced time limitations (Crawford-Ferre & Wiest, 2012). Due to current technology, instructors are able to emulate traditional learning activities that take place in the customary face-to-face classroom within online learning environments (Shi & Morrow, 2006; Stephens & Mottet, 2008; Skylar, 2009). An additional attractive aspect of this type of learning environment is the ability to provide higher education options in rural communities.

Online learning can be presented in synchronous, asynchronous, or hybrid learning environments. Synchronous learning environments are settings where learning occurs in real time and might incorporate activities such as an instructor lecture, collaborative activities, and student questions. All members of the course are logged on at the same time each class meeting. Asynchronous environments are settings where students engage in activities that occur independent of the instructor or other peers. Asynchronous environments might include a review of a pre-created learning module, threaded discussion boards, and/or conversations via email with the instructor or class peers. A hybrid course can take many forms. Some course meetings are synchronous, while other activities are independent or asynchronous. Regardless of the synchronicity of the course, the key factor for students from rural settings is that education is offered to those who are not near the traditional brick and mortar type of instruction. Students have shown appreciation for distance learning as it provides flexibility, accessibility, and technology and interactive tools. It also enables them to share ideas with other students (Coogle & Floyd, 2015; Huang et al., 2020; Sherman et al., 2010).

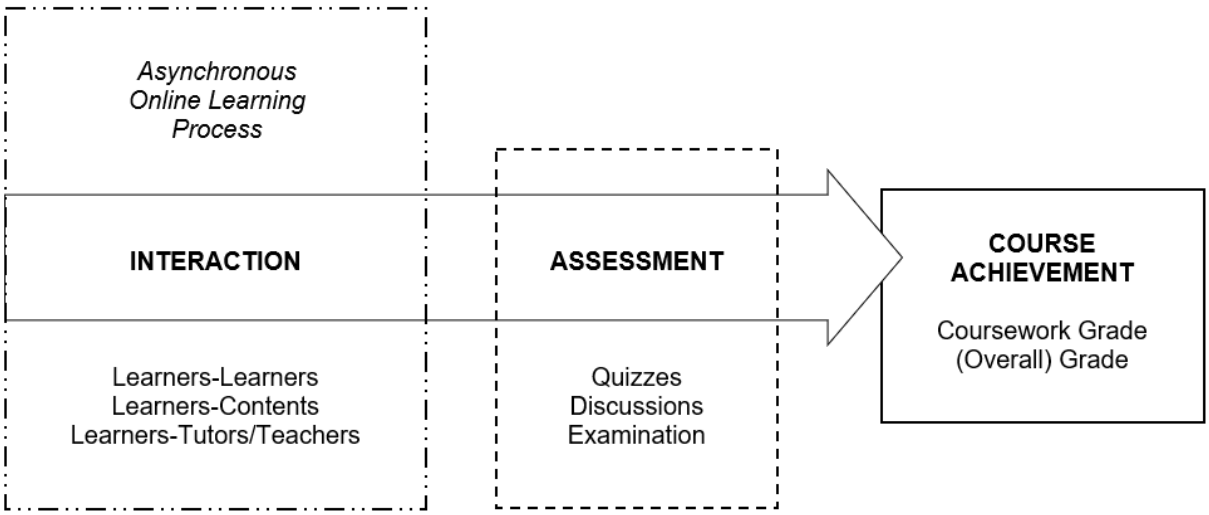
Some research suggest that online instruction demonstrated more success than traditional courses (Alghazo, 2010; Paul & Jefferson, 2019; Stern, 2016). Students have identified aspects of online learning that are not ideal, such as the cost of print, organisation of materials, and the time needed to prepare materials (Heirdsfield et al., 2011). Another consideration regarding online learning is completion rate (Wladis et al., 2016). Research suggest that students enrolled

in online learning environments were more likely to fail or withdraw. Therefore, it is important to consider supports to enhance student success in online programmes.

As exposure to distance learning environments has increased, student perceptions have transformed over time (Carter, 2013; Platt et al., 2014). Research examining student views suggest that both synchronous and asynchronous environments have benefits. Specifically, students have indicated they understood more and performed better when participating in synchronous environments (Skylar, 2009; Ward et al., 2010). Conversely, students enjoy the flexibility and work at their own pace style provided in asynchronous environments.

Figure 1

Conceptual Framework



Research Method

This research adopts a mixed-method approach whereby data were elicited from online interaction reports, assessment records, and questionnaires. For the first phase of the study, interaction reports were obtained from the Learning Technology Unit. These interaction reports, for one semester, were organised according to individual hits by the course instructors and learners. These data were then tabulated and analysed.

Assessment records for coursework scores and overall course scores were obtained from the Assessment and Examination Division. Individual scores were measured against the hits data for sample learners and presented using tables.

To elicit more data from the learners' experience in their online activities, a set of questionnaires was distributed online. Thematic analysis was carried out on the responses obtained from the participants.

Population and Sampling Information

The population for this study consisted of all learners of the Introduction to Communication course. This is a core course for students in the Bachelor of Communication programme and, a compulsory basic course for students in other programmes. The sample comprised randomly selected course learners for the January 2018 semester.

Findings

Presentation in this section is divided into quantitative findings and qualitative findings respectively. A sample of 116 learners were chosen for the quantitative data and 20 learners for the qualitative data.

Quantitative Findings

Activity by the learners was matched against the course score and overall final score. The grading system used in this institution is based on the rubrics given for this course. The grades are classified as follows:

Table 1

Classification of Grades

Grade	Marks
Excellent	81 – 100
Good	61 – 80
Fair	41 – 60
Poor	21 – 40
Unsatisfactory	0 – 20

Table 2 depicts the hits by the learners and their respective scores for the coursework. There is no certain pattern in the learners' hits and grades. A simple assumption would be that the learners would attain high grades if they took part more actively, shown as more hits, in this online activity. However, the findings do not support the simple assumption that a student with a high number of hits would score high grades. For instance, the learner with the most hits (19) attained the highest grade (Excellent). However, eight other learners with only one hit each also attained Excellent.

Table 2

Learner Interaction: Hits vs. Coursework Grades

Hits	Unsatisfactory	Poor	Fair	Good	Excellent	Total
	(0) US	(1)P	(2)F	(3)G	(4)E	
1	1	1	2	2	8	14
2	3	5	3	3	3	17
3		1	1	10	3	15
4	1		4	14	4	23
5	2			7	2	11
6		1	1	1		3
7	1		3	1		5
8			2	3	2	7
9		1		1		2
10				1	1	2
11				4	3	7
12		1		3		4
13				2		2
14					2	2
15				1		1
19					1	1
	8	10	16	53	29	116

It is assumed that a learner who is not active will receive a low grade. For instance, one learner with one hit attained an unsatisfactory score. However, another learner with an average number of hits, i.e., seven hits, also attained an unsatisfactory score. The coursework scores make up 60% of the overall course scores. Another 40% is derived from the final examination. For the overall score, the grading is as follows:

Table 3

Overall Score Grading

Grade	Marks
A	80 - 100
A-	75 - 79
B+	70 - 74
B	65 - 69
B-	60 - 64
C+	55 - 59
C	50 - 54
C-	45 - 49
D+	40 - 44
D	35 - 39
F	0 - 34
I	Incomplete

Table 4 shows the data on the hits by the learners and the overall course grades attained by the sample learners. The comparison of hits to the overall course grades also did not show a certain pattern. As in the earlier findings, it is assumed that the learners who scored more hits through their activities would score higher grades for their overall scores. For instance, one learner who had 14 hits scored an A for the overall grade. However, four other learners who only registered one hit each scored A for their overall grade. Another learner who scored a high number of hits, i.e., 15 hits, managed to attain only a B+ as overall grade. Similarly, two learners who only registered one hit each managed to score a B+ as their overall grade. This shows an uncertain trend in determining the relationship between hits and scores attained by the learners.

Table 4

Learner Interaction: Hits vs. Overall Grades for the Communication Course

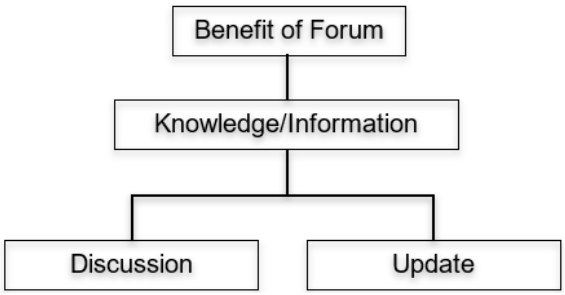
Hits	A	A-	B+	B	B-	C+	C	C-	D+	D	F	I	Total
H1	4	2	2	1	1	1	1		1		1		14
H2		1	2	1	1	1	1	2	2	1	3	2	17
H3	1	3	4	2	2	1	1	1					15
H4	1	3	4	3	5	3	2		1		1		23
H5		2	2	5							2		11
H6				1			1				1		3
H7				1	1	1	1			1			5
H8	1	1		1	2			1	1				7
H9					1				1				2
H10	1			1									2
H11	1	1	1	3	1								7
H12			2	1				1					4
H13			1	1									2
H14	1	1											2
H15			1										1
H19		1											1
	10	15	19	21	14	7	7	5	6	2	8	2	116

Qualitative Findings

As a follow-up to the quantitative data derived from analysis of online activity and coursework scores as well as overall course scores, a qualitative study was conducted using five open-ended questions. Twenty learners responded to the questions and the following is the discussion according to the themes from each question.

Figure 1

How the Online Forum Helps Students



The first question is intended to gauge how the online forum helps students in answering their assignments and final examination. Based on the feedback given by them, two sub-themes emerged from the data analysed, which are (i) discussion and (ii) update. These two sub-themes can be categorised for the theme of information/knowledge. One of more than half of the responses (n=11) received on the sub-theme discussion is as follows:

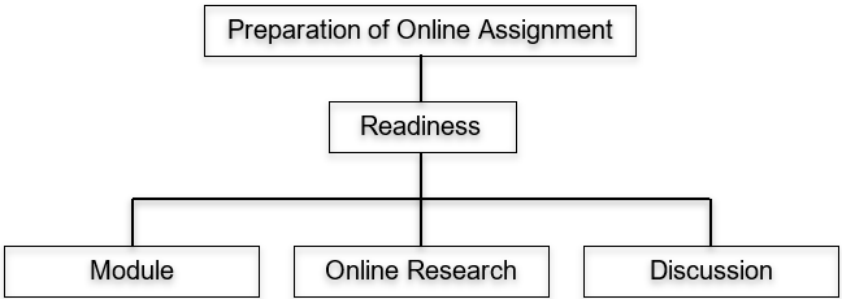
> "Most helpful in terms of ability to discuss with lecturers and fellow students..." (Participant 1)

Almost half of the participants (n=9) responded that the forum is beneficial as it provides updates in answering assignments and the final examination.

> "Discussions with the e-tutors and peers through the forum helped me in gaining the latest and updated input and understanding to do the assignments. It is also beneficial for my final exam." (Participant 4)

Figure 2

Preparation of Online Assignment



The next question received responses from 20 participants about the participants' preparation for the online assignments. Three sub-themes were found from the analysis of the responses for the main theme of readiness, namely; module, online research, and discussion. Half of the respondents (n=10) referred to the module provided by the institution to prepare themselves for the online assignments. A typical response is as follows:

> "I prepare with the topics and assignment requirements from the module. It is very helpful as I can focus directly on the content needed." (Participant 6)

Some of the respondents (n=8) prepared themselves by doing online research. They mainly used the institution's digital library and other sources. One of the responses is as follows:

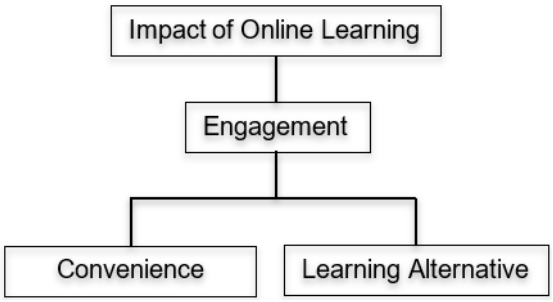
> "I find the online digital library very helpful for me to prepare for the assignment. There are a lot of resources available on the Internet and I make use of these resources too". (Participant 13)

A few of the participants (n=7) responded that their preparation for online assignments was through discussions with their course tutor and peers. One of the responses is as follows:

> "By understanding the requirements of the assignment and checking the forum if there are any insights from the e-tutor. Discussions with the tutor and my course mates are useful for me." (Participant 19)

Figure 3

Impact of Online Learning



Question 3 received responses from 18 participants. This question enquired how online learning mostly affected participants in this course. According to the data, two sub-themes emerged during the analysis, namely, (i) convenience and (ii) learning alternative, which could be categorised under the theme of engagement. The following are some of the feedback received from the participants (n=14) who responded that the online learning provided them with convenience:

> "The online learning is convenient for me…" (Participant 1)

> "It's easy because when I am not able to attend the face-to-face class with the tutor, I can just go to the online forum and discuss". (Participant 16)

> "I can always use the online forum and/or chat app provided in myINSPIRE to interact with the e-tutor. It is very convenient..." (Participant 14)

Some of the participants (n=8) opined that the most impact they received on online learning is engagement. A response is presented, as follows:

> "I can engage easily in the discussion forum with my peers and e-tutor." (Participant 2)

However, there is also feedback from students who seemed unsatisfied with the lack of engagement in the online learning. According to these participants:

> "The e-tutor must always be active and provide accurate answers to the questions posted by students. Otherwise, it would be very difficult for us". (Participant 6)

> "For me, the online classes are less effective due to lack of engagement…" (Participant 7)

Table 5

Learner Interaction: Alternative Channels Hits

Alternative Channels	Hits
Online library	16
Google	14
Youtube	12
Blogs	10
Webs	8

This question received responses from all participants. The participants stated that they had used alternative channels, such as online library (n=16), Google (n=14), YouTube (n=12), blogs (n=10), and webs (n=8), to help them in their learning in addition to the VLE platform of the institution. Some of the responses are as follows:

> "I frequently use Google to search for terms that are unclear and to gather more information on the focus of the subject." (Participant 15)
> "I always use Google." (Participant 7)

> "Try to find references, sources or important information through the Internet and to find reference materials at a nearby library". (Participant 20)

> "It is another alternative to get reference sources and learning articles." (Participant 8)

> "Channels through learning videos on YouTube can provide more info other than notes and tutors." (Participant 16)

However, one participant claimed that he did not use any channel other than myINSPIRE.

> "None that I personally used." (Participant 17)

Finally, respondents were asked about the factors that motivated them to engage in online learning activities. The feedback obtained shows that convenience was a major reason to participate in online learning activities, such as the following feedback:

> "Convenience ..." (Participant 1)

"Easily accessible" (Participant 6)

In addition, respondents also think that the flexibility factor causes them to participate in learning activities, such as:

"Easy to access from anywhere, anytime" (Participant 3)

"...flexibility" (participant 4)

"Can study anytime, and from anywhere" (Participant 11)

Furthermore, there is a factor of engagement between students and tutors, and among students, such as;

"Curiosity in the subjects studied and the spirit of group learning in the forum that is to interact with lecturers through chat in the myINSPIRE" (Participant 1)

"Engagement from the e-tutor and other students" (Participant 14)

Discussion

The study set off to identify the types of online interactions that occur in the asynchronous forum for the Introduction to Communication course, to identify the relationships between the online interaction and course achievement, and to explore students' perceptions of their online learning and involvement in the forums held. The discussion will address the research questions in turn and be based on quantitative and qualitative findings.

Research Question 1: What are the types of online interactions that are occurring in the asynchronous forum for the Introduction to Communication course?

The three types of interactions as put forth by Moore et al. (2016) are learner-learner, learner-instructor, and learner-content. In this study, the interaction found was primarily between learner-instructor and learner-content. Interaction between learner-learner was lacking and this could be attributed to the fact that the questions posed by the instructors need not have any learner-learner interaction. The learners could engage directly to respond to the questions posed by the instructors, using the content in their modules and other cited sources. Following the assertion by Moore et al. (2016) that ignoring any one of these interactions will affect the learning process, efforts must be done to ensure there is learner-learner interaction in the online activities.

Research Question 2: What are the relationships between online interaction and course achievement?

This research question is addressed through quantitative data derived from analysis of the online interaction of the learners and their coursework as well as their overall course score achievements. Data were collected from the postings of both students and tutors and final course results. Analysis was done on the records derived from the online forum postings of both the tutors and students.

In general, logical consequence, the more a learner participates in learning, the more he or she becomes better in the subject area, which leads to a high attainment. However, the

findings indicated that this was not the case in the online learning forums of the present study. No logical pattern was observed as a person could enter a discussion in a forum just once and yet score highly in a paper while another person who immersed himself or herself in online learning by participating in the forums diligently might not score well at all. However, there were also cases of learners who participated highly in the discussion forums and scored highly. There is no clear understanding or explanation on the role of discussion forums in learning outcomes and there is no indication of association of discussion forums with improved learning.

Although learning discussions seem not to aid learning, there must be an explanation why learners did well in the course without participating as seriously in the discussion forums. In the same vein, there must be an explanation why those who participated highly in the forum did not score well in the final.

An explanation that could be given is that the final examination questions were all derived from the module. Reading the module alone is sufficient to score well in the course. Perhaps some learners did not use the module for revision in facing the examination.

Research Question 3: What are the students' perceptions of their online learning and involvement?

The third research question is addressed with qualitative data derived from the open-ended questionnaire which comprised of five questions.

Findings from the qualitative data indicated that the forum was beneficial in two ways, namely, in providing a platform for discussion with fellow learners and tutors, and in getting updated information on the course, particularly on the assignment question.

In writing the assignment, learners indicated that they had used three sources, namely, module, online library, and discussions with tutors and fellow learners. Convenience and ease of engagement were two reasons for participating in online learning. The learners valued the convenience of learning through the forum and the ability to connect with their tutors and other learners.

Moore (2016) described learner-learner interaction, learner-instructor interaction, and learner-content interaction as the three types of interaction in a distance learning course. Indeed, these features were found to be present in the current study, except learner to content interaction.

Another dimension found to be present in the online learning context is the interaction with the interface. According to Hillman et al. (1994), new technologies create a fourth type of interaction: learner-interface interaction. They defined it as interaction that takes place between a student and the technology used to mediate a particular distance education process. In the present study, learners' participation in online learning were found to be influenced by technology, interface characteristics and instructional tasks.

Apart from learning through participation in forums, learners reported that they also used other sources, which were YouTube, blogs, and Google. These alternative channels were used to find ideas for their assignments, to gather more information, and to get relevant articles to cite. YouTube specifically provided the learners with clearer and detailed information compared to the module and tutors' answers pertaining to certain concepts present in the module.

The factors that led to learners' participation in online learning were convenience, easy access, flexibility, and engagement. This is in agreement with Vonderwell (2004) who asserted that online learning requires the construction of instructors' roles, relations, and practices. Hence, it is important to understand the implications of online roles for both instructors and learners by virtue of their interdependence.

However, an issue on engagement was raised, pointing to a need for commitment on the part of tutors to provide meaningful engagement with learners. Following this, it is only natural to develop a requirement for clear expression of expected commitment and involvement of both learners and instructors in ensuring an effective and efficient online learning process.

The findings of this study suggest that in uplifting learners' performance, insight into interaction processes and how a learning community develops need to be gained. Instructors could also formulate strategies for structuring the course and interventions for any issues that crop up.

Conclusion

The study explored the types of interactions that occurred in the asynchronous forum for the Introduction to Communication course, the relationships between the online interaction and course achievement, and the students' perceptions of their online learning and involvement in the discussions. The findings showed that online learner participation and technology and interface characteristics, student and instructor roles and tasks, in an online learning course can influence participation and learning outcomes. Therefore, appropriate construction of online roles and understanding of how communities of online learners develop are important to sustain discussion forums in online learning. There is an obvious need to put in place a user-friendly online course and management system with specific instructions that an online learning platform is about providing a platform for learners to communicate with each other, with the instructors and with the content, in order to support them in learning. Effective online discussions require interdependence amongst learners, between learners and instructors, and between learners and content. Learners need to understand their learning goals. In this regard, monitoring students' participation and patterns of participation can help instructors identify and develop strategies to resolve issues faced by learners and ensure the successful completion of the course.

Acknowledgements

The authors would like to acknowledge the contributions of the university in which this research was carried out through an internal research grant (Grant code: OUM-IRG-2019-001).

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