World Academy of Science, Engineering and Technology
International Journal of Educational and Pedagogical Sciences
Vol:8, No:12, 2014

The Motivating and Limiting Factors of Learners' Engagement in an Online Discussion Forum

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Open Science Index, Educational and Pedagogical Sciences Vol:8, No:12, 2014 publications.waset.org/9999841/pdf

***Abstract*—**Lately, asynchronous discussion forum is integrated in higher educational institutions as it may increase learning process, learners' understanding, achievement and knowledge construction. The asynchronous discussion forum is used to complement the traditional, face-to-face learning session in hybrid learning courses. However, studies have proven that students' engagement in online forums is still unconvincing. Thus, the aim of this study is to investigate the motivating factors and obstacles that affect the learners' engagement in asynchronous discussion forum. This study is carried out in one of the public higher educational institutions in Malaysia with 18 postgraduate students as samples. The authors have developed a 40-items questionnaire based on literature review. The results indicate several factors that have encouraged or limited students' engagement in asynchronous discussion forum: (a) the practices or behaviors of peers, or instructors, (b) the needs for the discussions, (c) the learners' personalities, (d) constraints in continuing the discussion forum, (e) lack of ideas, (f) the level of thoughts, (g) the level of knowledge construction, (h) technical problems, (i) time constraints and (j) misunderstanding. This study suggests some recommendations to increase the students' engagement in online forums. Finally, based upon the findings, some implications are proposed for further research.

***Keywords*—**Asynchronous Discussion Forum, Engagement, Factors, Motivating, Limiting.

I. Introduction

THE advancement in ICT has contributed significantly to the field of education, for instance, it allows the users to reach the information instantly from websites. It begins with the early stage of Web 1.0, which only focuses on information dissemination; later the innovation of Web 2.0, which allows information sharing. The advent of web technology or e-learning 2.0 therefore allows users to interact with the community, in the forms of giving views, opinions or comments in the social network. It also enables users to make friends, by sharing photos, videos and comments on the posts sent.

This computer-mediated communication (CMC) has created an interactive environment amongst users, and/or with instructors, as well as interaction with the course materials. There are two main approaches that can be used for learning using Web 2.0 tools, namely, synchronous and asynchronous. Synchronous learning involves interactions between several students without location limitation, but occurred at the same time or simultaneously. Synchronous learning usually is supported by video or audio conferencing, chat, and MOOs. It is different with asynchronous learning that occurs in a flexible environment where students and instructors do not have to be online at the same time. This method allows students to log on to the e-learning environment at any time, whether to download documents, send email, or engage in discussion forums.

Web 2.0 applications, especially LMS (Learning Management System) or CMS (Content Management Systems) are considered highly relevant and applicable in the field of education. LMS is a software application which enables educators to manage and implement the process of teaching and learning in electronic learning systems. It is a platform used to deliver online learning materials and has been widely practiced in many higher educational institutions. LMS, which initially contains only a communication tool with structured database but not interactive allows the educators to keep or put learning materials accessible to students. Then, LMS has changed from the usual form of storage and distribution to provide greater flexibility in e-learning [1]. Examples of well-known LMSs are Blackboard and Moodle.

There are two main elements in any LMS environment platform, namely, resources and activities. These elements provide an advantage or strength in realizing the teaching and learning process to run smoothly in online learning. The source is a file or a link that can be used to support learning. Among the resources available, including files (pdf documents, audio files, video files), books (with a range of resources that use formats such as e-books), and websites (e.g. Wikipedia). Activities include quizzes, chat, assignments, database, glossary and forum. The forum is one of the most widely used activities in hybrid learning courses that allow students to share ideas or educational information.

II. Asynchronous Discussion Forum

There are two ways of communication tools, namely asynchronous and synchronous, employed in all types of interaction in online courses. Asynchronous interaction allows students to communicate with their instructors or classmates without the time and location limitation. Conversely, synchronous interaction requires simultaneous participation of the students and instructors and it happens in actual time, e.g. classroom. For blended or hybrid learning courses, online forum has been used most widely to complement face to face sessions. The purpose of the discussion forum is mainly to provide a space for students and teachers to work together to explore the issues and share their skills and objectives.

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Today, many schools and universities have integrated asynchronous discussion forums in lectures and tutorials due to the many advantages it offers. Forums can enhance students' understanding [2] and achievement [3]. Asynchronous communication tools do not require immediate interaction or response, thus students will have more time to think about the discussion topics and to contribute. This provides space for them to make careful preparations in providing contributions or ideas with reference either before responding, criticizing and posting comments in the peers' discussions. In addition, students are able to review posts and reflect on the direction they wish to move the discussion [4]. Also, students' contribution not only usable for reading purposes, but also to be kept in the forum for their reference too. These findings show that forums are clearly powerful learning tools, but only if students engage with them.

However, the effectiveness of asynchronous discussion forums to ease teaching and learning depends on the process the forum being carried out. For example, it depends on the students' engagement level and the quality of their interaction taken place. Without the effective involvement of the students, full use of the online discussion will not be achieved. Therefore, instructors play an important role in monitoring and ensuring high participation and interaction exists to stimulate reflective thinking and critical thinking among their students. Since online forums may prove useful in the learning process, it is necessary to investigate the possible factors that determine their engagement in an online discussion. This study aims to identify the issues that need to be addressed by instructors to encourage students' participation in an online forum.

In order to realize the level of involvement and high interactivity in asynchronous discussion forums in Malaysia, there are several challenges that need to be addressed. Some of these challenges include the contribution and engagement of students in asynchronous discussions. Students' engagement in online forums is still at a low level [5], [6]. They are less involved in producing ideas, responding or interacting with peers in discussion forums. Among the challenges that caused lower engagement is the time constraint resulting in a minimum or no contribution [7]. This may be due to work and family commitment which make it difficult for them to find time to participate in the forum.

Needs for creating a quality interactive discussion is to read existing messages before posting messages [6]. Along this line, students are not pursued in the correct procedures to send the forums. They tend to focus only in the selected forum involving message from some of them [8]. Besides that, there are also students who focus only on the last forum and not read by them [9]. This affects their learning as they tend to ignore the previous forum or forget the main idea discussed at the beginning of the discussion. They just express their ideas only and there is no continuity of ideas in the discussion. Research has shown that most online discussion threads are short and fragmented [9].

The primary obstacle that makes students quit contributing or engaging in the discussion is when they do not receive immediate feedback from their peers [10]. This limits the asynchronous discussion forums from running smoothly as only one-way communication occurs. Other studies show that students do not engage in discussion when (i) they feel threatened by other students [9], (ii) there are students who convey their message in a rude way [11], (iii) some students are too dominant in the discussion [9] and (iv) the students are tired to read too many messages [12]. In addition, there are groups of students who withdraw or less involved in the forum when there are loads of information [13]. This means that when a student sent too many forums with complicated and dense information, this caused other students to feel uncomfortable to engage in such discussions. In the context of learning in Malaysia, the engagement of students in a virtual environment is less favorable due to the more priority given to the traditional learning method [5]. The empirical results show that there are many factors leading to the limited student contribution in asynchronous discussion forums. Thus, a study should be carried out to explore and identify the factors that may affect the students' engagement in asynchronous discussion forums in a public university in Malaysia.

III. Objectives

Based on the problem statement, the objectives of this study are:

1) To identify the factors that led to the limited contribution in asynchronous discussion forums from the viewpoint of instructors and students.
2) To identify the motivating and limiting factors in the use of asynchronous discussion forums by the students.

IV. Methodology

The study was carried out on two instructors (interviews) and 18 postgraduate students (questionnaire) attending a hybrid mode course in a public university in Penang, Malaysia. There are 13 female and five male students participating in this study. A total of 11 students are in the age range of 26-30 years, while three students in the age range of 31-35 years, two students in the age range of 36-40 and two students in the age range of 20-25 years and 41-45 years respectively, involved in this research. Only one participant is a full-time student, while a total of 17 students are undertaking part-time mode.

This questionnaire covers all four parts, namely Section A (Samples' Demographic), Section B, Section C (Motivating Factors) and Section D (Limiting Factors). Section B of the questionnaire covers several dimensions of (a) The Practices or Behaviors of Peers or instructors (including 10 items - item 1, 2, 3, 4, 5, 6, 7, 13, 32 and 37), (b) The Needs for the Discussions (includes 3 items - 14, 21 and 33), (c) The Learners' Personalities (including 5 items - 8, 10, 16, 17 and 18), (d) Constraints in Continuing Discussions (includes 4 items - 12, 19, 20, 23), (e) Lack of Ideas (includes 3 items - 22, 24, 25), (f) The Level of Thoughts (includes 3 items - 15, 38, 40), (g) The Level of Knowledge Construction (items 7, 25, 26, 27), (h) Technical Problems (items 11, 29, 36, 39), (i) Time Constraints (items 30 and 34), and (j) Misunderstanding

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(items 28 and 31). These 40 items use a five-point Likert scale ranging from 'Strongly Disagree' to 'Strongly Agree'.

The 10 dimensions above were identified by [14], but those 40 items were developed by the authors based on the research literature. The Cronbach's alpha of this questionnaire is 0.884. Section C of the questionnaire covered the open-ended items, in which the students were asked to list the factors of encouragement (motivation) for their engagement in asynchronous discussion forums. Meanwhile, Section D of the questionnaire includes open-ended items, where students were asked to list the limiting factors in asynchronous discussion forums.

V. Findings

A. Interviews with Instructors

An interview was carried out to two lecturers who are using online forum in their teaching and learning processes. The outcomes of the interview indicate that the students did not really engage and contribute to the asynchronous discussion forum. According to the first instructor (Lecturer 1) who has been teaching for seven years, e-forum is one of the factors in the LMS which has the potential to develop critical thinkers and also allows the participants to work in groups. The challenge is in maintaining the utmost level of interactivity among the students. Lecturer 2 who had teaching experience in the LMS environment for over 10 years, said the LMS element offers an environment for students to construct their knowledge as a result of social interaction in the e-forum. Nevertheless, there are many constraints in realizing asynchronous discussion forum at the highest level. Based on the instructor's feedback, it was found that the level of interactivity among the students is low.

Both instructors found that most students do not read, but they only convey their ideas to accomplish the requirements set by the course instructor. There are also students who just read and posted to the forum without engaging themselves actively in discussions. The other problem is that there are students who only responded to the input posted by certain peers. The time factor also plays a role because there are only a handful of students who read and responded to the current forum. Some of the students also had the tendency to post their messages, to respond to their peers or instructors questions without reading the entire forum. Usually, the discussion will be uploaded in the LMS environment and the students are given ample time during the week to go through the discussion. However, they are not taking the time to read the whole forum. Also, as the discussion usually involves several threads, some students may find it difficult to follow all the threads available. This results in the students conveying their ideas without following the proper thread, and resulting incoherent ideas.

B. Questionnaire Administrated to the Students

Tables I-X show the results for all the ten dimensions accordingly. Five-point Likert scale which consists of five options are summarized in three main points. For analysis purposes, 'strongly disagree' and 'disagree' converted to 'disagree' while 'strongly agree' and 'agree' to 'agree' whereas neutral remains the same.

1. The Practices or Behaviors of Peers, or Instructors (10 items)

A total of 13 students (72.2%) said they felt frustrated and 11 students (61.1%) felt lazy to continue if they do not receive feedback or comments immediately from their peers. Meanwhile, 12 students (66.6%) felt frustrated and 9 students (50%) felt lazy if they do not receive immediate feedback from the instructor. A total of 10 students (55.6%) agreed with the assertion that they feel isolated when they do not receive any feedback.

A total of 11 students (61.1%) stop contributing if they found out that there are students who often convey as if they know everything. A total of 10 students (55.6%) agreed to stop contributing if there are comments that made them feel ashamed. Eight students (44.4%) will stop contributing when there is an emotional discussion. But a total of 13 students (72.2%) also said they will continue to contribute even though students often ask questions. Also, a total of 10 students (55.6%) refused to be actively involved in the forum as other students comment publicly. Table I reflects the findings for the dimension of practices or behaviors of peers, or instructors in details.

TABLE I
Dimension: The Practices or Behaviors of Peers, or Instructors

	Items	Disagree (%)	Neutral (%)	Agree (%)
1.	Disappointed if there is no immediate feedback from the classmates.	22.2 (n: 4)	5.6 (n: 1)	72.2 (n: 13)
2.	Lazy to engage if no immediate feedback from classmates.	33.3 (n: 6)	5.6 (n: 1)	61.1 (n: 11)
3.	Disappointed if no immediate feedback from the instructor.	22.3 (n: 4)	11.1 (n: 2)	66.6 (n: 12)
4.	Feel Lazy to engage if there is no immediate feedback from the instructor.	27.8 (n: 5)	22.2 (n: 4)	50.0 (n: 9)
5.	Feel isolated when there are no replies from others.	22.2 (n: 4)	22.2 (n: 4)	55.6 (n: 10)
6.	Stop contributing when others are giving opinions as though they know everything.	11.1 (n: 2)	27.8 (n: 5)	61.1 (n: 11)
9.	Stop contributing when there is an embarrassing comment about them.	33.3 (n: 6)	11.1 (n: 2)	55.6 (n:10)
13.	Stop contributing when there is an emotional discussion.	27.8 (n: 5)	27.8 (n: 5)	44.4 (n: 8)
32.	Not contributing when there are people asking a lot of questions.	72.2 (n: 13)	11.1 (n: 2)	16.6 (n: 3)
37.	Less contribution as others can comment openly.	38.8 (n: 7)	5.6 (n: 1)	55.6 (n: 10)

2. The Needs for the Discussions (Three Items)

A total of eight students (44.4%) agreed to stop contributing when the topic of discussion is less attractive. Also, a total of 12 students (66.7%) agreed with the statement that their contribution is just to meet some of the requirements of the course work. For the item 'I stop contributing because further discussion is often performed in a lecture', a total of eight students (44.4%) agreed with this statement, while another eight students (44.4%) did not agree with this statement. Findings for the dimension of the needs for the discussions are

displayed in Table II.

TABLE II
DIMENSION: THE NEEDS FOR THE DISCUSSIONS

	Items	Disagree (%)	Neutral (%)	Agree (%)
14.	Stop contributing when less interesting topic of discussion.	33.3 (n: 6)	22.2 (n: 4)	44.4 (n: 8)
21.	Contributing/engaging in forum only to fulfill the course requirements.	22.2 (n: 4)	11.1 (n: 2)	66.7 (n: 12)
33.	Stop contributing as further discussion implemented in lecture.	44.4 (n: 8)	11.1 (n: 2)	44.4 (n: 8)

3. The Learners' Personalities (Five Items)

A total of 10 students (55.6%) disagreed with the statement that they will stop contributing because they could not acquire new knowledge. A total of 13 students (72.2%) will stop contributing when peers do not answer their questions or feel skeptical about it. For the statement 'I will stop contributing if any peer who are selfish and do not cooperate', eight of the students (44.4%) disagreed with this statement.

A total of eight students (44.4%) agreed to stop contributing when the forum is becoming a one-way forum. In terms of the statement, whether the students will stop contributing when there is an irrelevant thread sent, the responses are equally divided, between those who agree, disagree and neutral with 33.3% for each. Table III highlights the findings for this dimension.

TABLE III
DIMENSION: THE LEARNERS' PERSONALITIES (FIVE ITEMS)

	Items	Disagree (%)	Neutral (%)	Agree (%)
8.	Stop contributing as not obtaining new knowledge.	55.6 (n: 10)	22.2 (n: 4)	22.2 (n: 4)
10.	Will continue contributing even my questions are not answered.	72.2 (n: 13)	22.2 (n: 4)	5.6 (n: 1)
16.	Stop contributing if others are selfish and incorporate.	44.4 (n: 8)	22.2 (n: 4)	33.4 (n: 6)
17.	Stop contributing if message is sent in one way communication.	27.8 (n: 5)	27.8 (n: 5)	44.4 (n: 8)
18.	Stop contributing when there is not related message posted.	33.3 (n: 6)	33.3 (n: 6)	33.3 (n: 6)

TABLE IV
DIMENSION: CONSTRAINTS IN CONTINUING THE DISCUSSION FORUM

	Items	Disagree (%)	Neutral (%)	Agree (%)
12.	Will continue contributing even feel inconvenient to involve in the discussion.	72.2 (n: 13)	11.1 (n: 2)	16.7 (n: 3)
19.	Stop contributing as difficult to trace the thread of discussion.	33.3 (n: 6)	22.2 (n: 4)	44.4 (n: 8)
20.	Stop contributing if there are a lot of ideas conveyed in a single message.	72.2 (n: 13)	22.2 (n: 4)	5.6 (n: 1)
23.	Stop contributing if there are too many messages to read.	16.7 (n: 3)	11.1 (n: 2)	72.2 (n: 13)

4. Constraints in Continuing the Discussion Forum (Four Items)

A total of 13 students (72.2%) disagreed with the statement 'I will continue to contribute although feeling inconvenient to participate'. Meanwhile, eight students (44.4%) agreed to stop contributing because it was impossible to follow the discussion thread. Also, a total of 13 students (72.2%) will not cease to contribute, though there are many peers who provide many ideas in a forum. However, a total of 13 students (72.2%) will stop contributing when too many messages in a forum needed to be read. The details of these findings are shown in Table IV.

5. Lack of Ideas (Three Items)

A total of nine students (50.0%) agreed that they will stop contributing when the threads are merely repeating or carrying the same meaning. On the other hand, seven students (38.9%) disagreed with this statement. Next, a total of nine students (50.0%) will stop contributing when feeling short of ideas to contribute. However, a total of 16 students (88.9%) did not agree that they lack experience using the forum to share ideas. Table V reflects the findings for this dimension of lack of ideas.

TABLE V
DIMENSION: THE NEEDS FOR THE DISCUSSIONS

	Items	Disagree (%)	Neutral (%)	Agree (%)
22.	Stop contributing if the message to be sent out is a repetition.	38.9 (n: 7)	11.1 (n: 2)	50.0 (n: 9)
24.	Stop contributing if lack of idea.	33.3 (n: 6)	16.7 (n: 3)	50.0 (n: 9)
35.	Not familiar in using the forum to share ideas.	88.9 (n: 16)	0 (n: 0)	11.2 (n: 2)

6. The Level of Thoughts (Three Items)

A total of 15 students (83.3%) will stop contributing if the discussion is quite difficult. Also, a total of 12 students (66.7%) contribute less because of dubious feedback. A total of 10 students (55.6%) will stop contributing if the peers often draw conclusions about the subject without making any further explanation. The detailed findings for this dimension are shown in Table VI.

TABLE VI
DIMENSION: THE LEVEL OF THOUGHTS

	Items	Disagree (%)	Neutral (%)	Agree (%)
15.	Will continue contributing even if the discussion is difficult.	83.3 (n: 15)	0 (n: 0)	16.7 (n: 3)
38.	Not contributing since getting dubious feedback.	16.7 (n: 3)	16.7 (n: 3)	66.7 (n: 12)
40.	Will continue contributing even others often make conclusions about something without further explanation.	55.6 (n: 10)	11.1 (n: 2)	33.3 (n: 6)

7. The Level of Knowledge Construction (Four Items)

A total of 10 students (55.6%) will stop contributing when there are peers who posted rude messages. Next, eight students (44.4%) agreed with the statement that they will stop contributing when they do not understand the objective of the discussion. Also, eight students (44.4%) are in doubt or hesitate to question the ideas of others. A total of 10 students (44.4%) also agreed with the statement 'I feel lazy to argue resulting me to agree and not expanding the topic of discussion'. Table VII shows the details of the level of knowledge construction findings.

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TABLE VII
DIMENSION: THE LEVEL OF KNOWLEDGE CONSTRUCTION

	Items	Disagree (%)	Neutral (%)	Agree (%)
7.	Stop contributing since there are rude comments in the forum.	33.3 (n: 6)	11.1 (n: 2)	55.6 (n: 10)
25.	Stop contributing as not aware of the objective of the discussion.	27.8 (n: 5)	27.8 (n: 5)	44.4 (n: 8)
26.	Always feel hesitant/shy to question others idea.	27.7 (n: 5)	27.8 (n: 5)	44.5 (n: 8)
27.	Feel lazy to argue resulting in constant agreement and not developing the discussion.	27.8 (n: 5)	16.7 (n: 3)	55.6 (n: 10)

8. Technical Problems (4 Items)

The majority of the respondents (13 students or 72.2%) did not agree to continue contributing when the forum is complicated. A total of 12 students (66.7%) agreed to stop contributing as much time is needed to correct an error in the message sent. Next, a total of 12 students (66.7%) will stop contributing as they are often having trouble accessing the forums or the internet. The majority of the participants (13 students or 72.2%) also agreed to stop contributing once they have trouble removing the wrong message sent in the forum. The details of these findings are shown in Table VIII.

TABLE VIII
DIMENSION: TECHNICAL PROBLEMS

	Items	Disagree (%)	Neutral (%)	Agree (%)
11.	Continue contributing even find is a complicated way of sharing ideas.	72.2 (n: 13)	5.6 (n: 1)	22.2 (n: 4)
29.	Stop contributing as lack of time to correct the errors in the message sent.	11.2 (n: 2)	22.2 (n: 4)	66.7 (n: 12)
36.	Stop contributing as having trouble accessing the forums/Internet.	16.7 (n: 3)	16.7 (n: 3)	66.7 (n: 12)
39.	Stop contributing as having problems to remove the erroneous sent messages.	22.2 (n: 4)	5.6 (n: 1)	72.3 (n: 13)

9. Time Constraints (Two Items)

A total of 10 students (55.6%) will stop contributing when they lack of time to reply or send a forum. Also, a total of nine students (50.0%) did not have enough time to read all the messages in each topic discussed. Table IX indicates the details for this dimension.

TABLE IX
DIMENSION: TIME CONSTRAINTS

	Items	Disagree (%)	Neutral (%)	Agree (%)
30.	Stop contributing if there is a lack of time to reply/ send a message.	27.8 (n: 5)	16.7 (n: 3)	55.6 (n: 10)
34.	Not enough of time to read all the messages in each discussion.	38.9 (n:7)	11.1 (n: 2)	50.0 (n: 9)

10. Misunderstanding (Two Items)

A total of 13 students (72.2%) agreed that they do not really recognize their peers causing them to feel shy to ask for or write against the opinion of their peers. Next, a total of 13 students (72.2%) did not participate frequently in the discussion forum as they are afraid that apprehensive message would be misinterpreted by their peers. Details for two items for the dimension of misunderstanding are in Table X.

TABLE X
DIMENSION: MISUNDERSTANDING

	Items	Disagree (%)	Neutral (%)	Agree (%)
28.	No closer relationship with classmates cause feel shy to question /object to them.	22.2 (n: 4)	5.6 (n: 1)	72.2 (n: 13)
31.	Not taking part in the forum as worry misinterpreted by others.	5.6 (n: 1)	22.2 (n: 4)	72.2 (n: 13)

In general, the findings of this study indicate that although students recognize that they will acquire new knowledge when participating in the forum, there are some factors that affect their participation and interaction. Students also do not deny that their contribution is just merely to meet some of the course requirements.

VI. DISCUSSION

Information sharing is a key practice that should be utilized in online learning, but students do not take its full advantage [15]. This study corroborates the findings of [15]'s study as students are less involved in the discussions when (i) other students tend to form a conclusion without giving further explanation, (iii) the forum sent is a repetition or carry similar means, (iii) the postings were sent in the form of one-way forum and as well as the presence of students who become too dominant in a discussion. These cause the other students to be lazy, to offer reinforcement, or to argue/agree with the views of their peers, resulting as a barrier to develop the topic of discussion.

This is consistent with the findings of [16] in that the interaction or discussion that occurs in asynchronous forums cannot be equated with traditional classes which include face to face mode. In asynchronous discussion forums, chat situation becomes shallow and the opportunity to practice the full dialogue unnoticed by the students [17].

Moreover, [18] found that students' satisfaction in face to face discussion is higher as compared to asynchronous discussions. They feel more energetic and enthusiastic in face to face settings. Students found that asynchronous discussions delivery is slower, emotionless and take a longer time to read posts, response, provide answers or to analyze the contribution of peers. The study also found that usually (i) the peers do not answer their questions or doubts, (ii) do not receive an immediate response from peers and instructors and (iii) a lot of messages in the forums to be read. But the findings of this study contradict to that of [18]'s findings in that their involvement becomes less when there is an emotional discussion.

Furthermore, [19] found one of the major limiting factors in achieving higher knowledge construction is because students are often scared and afraid to question the idea of their peers. There are similar findings in this research that students fear they will be misunderstood by their peers, felt shy or embarrass to ask and skeptical or reluctant to question the ideas of others. This finding also supports the findings of [20] who found that students were more interested in responding to peers' questions only without further elaboration given,

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resulting low level knowledge construction.

Additionally, the level of discourse or interaction among students depending on the topic of discussion or question which more specific than broad and more open questions [21]. This study also supports this statement because when students (i) find the discussion objectives are less clear, (ii) do not understand the objective of the discussion and (iii) students are short of ideas, the discussions become difficult and not focused. The students also commented that the topic of discussion is not interesting. The findings also indicate that without an effective students' involvement, the use of online discussion will not be achieved [22]. Among other reasons that inhibit the students' engagement in this study are due to the tendency of some of their peers to post their thoughts or comments rudely, openly, embarrassing and dubious feedback.

The effectiveness of asynchronous discussion forums to facilitate teaching and learning depends on the implementation [9], for example, the extent of students' discussions and the quality of student interaction and participation played a role. In this study, some of the reasons and excuses claimed by the students for not really engaged in asynchronous discussion forum, including health problem, insufficient time frame given, no reference material while replying to a forum, too many and too long messages to be read, time constraints and that they found their involvement in the forum as burdening or inconvenient as well. Besides that, other reasons that limit the engagement in the forums are the attitude or behavior of peers such as sending materials copied from the internet and not their genuine opinion as well.

This study also shows that the technical aspects such as (a) difficulty in accessing the internet or forum, (b) the need to remove wrongly sent message in the forum, (c) less time to reply or post the message, (d) complexity in the design of the forum , (e) does not have time to read all of the messages in each topic, (f) require a lot of time to correct errors in a message sent, (g) difficult to follow the sequence in the discussion and (h) sharing of ideas through forums, are other barriers or limiting factors for them to participate in this learning environment. In addition, students' contributions in asynchronous discussion forum are fewer as the courses are offered in hybrid mode whereby face to face sessions are used to discuss similar topics. The findings in this study confirmed the findings by [23], who found that resources in the LMS are not fully utilized.

The findings of this study were generally consistent with previous findings in the literature. The results showed that students also gained from the asynchronous discussion forum which allows them to acquire new knowledge or information needed. The students also held discussions that provide space for them to complete their assignments or coursework. The advantages mentioned by the students are to access forum without location limitation, the opportunities to exchange ideas as well as multilateral discussions. In addition, the findings from this sections indicate that students find other motivating factors such as (a) one of the ways to know their peers, (b) a quick overview (summary) of a topic, (c) acquire marks (coursework), (d) to overcome the problem of lacking time in classroom discussions, (e) not required handwritten work, (f) flexible time for discussion, (g) can get materials on-line (internet), (b) interactive, (i) a platform for discussion, (j) the speed of internet and can acquire the skills to use computer or internet also plays a role in the discussion and interactivity.

VII. Implication of Findings

Feedback and limited interactivity in asynchronous discussion forums indicate that students paid less attention to their peers' ideas. As the findings indicate that the students did not really focus their attention on their peer's idea, the instructor should pay his/her roles in motivating them. One way to overcome this is by having a much smaller collaboration in which each group member is given a certain responsibility in discussing the given topic. In order to produce a two-way communication and quality discussion, the participants need to read existing posts before sending own post [6].

Moreover, the assignment must also be matched with the participants' existing knowledge and skills. If the discussion tasks are too complex, then the level of knowledge construction would also be lower [24]. It was recommended that an individual must send a post (comment or opinion) as a basis for discussion on specific course before progressing to the construction of knowledge at a high level [24]. In addition, to increase the effectiveness and students' interactions in the forum, instructors should play a role in managing the discussions and focus on the topic of discussion. Besides that, instructors should provide adequate and full instructions in order to encourage the students to complete the discussions. The authors of this paper also found that higher involvement by the instructor may increase students' interest, motivation and engagement. Additionally, educational institutions should also focus on student-centered learning environment as well.

VIII. Recommendations for Future

This study provides valuable insights for future research;

1. Study on content analysis to be carried out to measure the levels of knowledge construction of the students.
2. Study on social network analysis to be carried out to analyze the students' patterns and the level of social interaction in an online forum.
3. Study of cluster analysis or technique to classify the behavior of participants in an online forum is proposed.
4. A combination of content analysis and social network analysis methods in asynchronous forums to provide overall results on students' engagement, including the cognitive and social process in the online interaction.

IX. Summary

In summary, there are various factors that encourage or limit the students' engagement in the asynchronous forum discussion environment. In the hybrid mode of learning where online learning is combined with face to face instruction, asynchronous forum discussion is one of the activities to enrich the teaching and learning process. As such, educational

institutions should adopt various approaches in improving student engagement in asynchronous forum discussion. Unfortunately, students often feel skeptical about the effectiveness and impact of asynchronous discussion forums on their intellectual and knowledge level. These goals can only be achieved when they work together and engage in intellectual arguments and discussions.

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