Students' Impressions on the Effectiveness of Online Discussion Forums

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Abstract

Learning processes have gained significant importance because of diverse sources in digital era. The main objective of this study is to evaluate the effectiveness of online discussion forums among the students of Abu Dhabi University, UAE. The study has recruited 105 students, who were given questionnaires to pinpoint the aspects and features approved by them. The questionnaire consists of factors regarding the significance of online discussion forum and regular participation. The obtained data was analysed through descriptive statistics. The hypothesis of study has been tested using chi-square test. The results have shown strong association between positive learning experience and frequency of student participation in discussion forums. However, no statistical significance (p-value=0.306) has been observed among online forums and age of the participants for developing critical thinking skills. Moreover, a significant difference has been identified in students' participation on the effectiveness of online discussion (p-value=0.000). Thus, it is concluded that online discussion forums serve as an efficient and effective tool for interaction among the participants. The discussion forums play an effective role in developing and acquiring employability skills among students. Moreover, active and frequent participation of students in online discussion forums enable them to enhance their learning experience.

Keywords: *Interaction, Learning, Online discussion forums, Participation, Positive learning experience*

Introduction

Learning process through a variety of sources has gained significance with prominence in digital modalities. One such source is the online learning process that is known to be delivered through a range of mediums including virtual learning courses, educational websites, digital library, and books, etc. All these mediums provide accessibility to learning materials, as well as help in improving the process of teaching and learning (Hershkovitz & Nachmias, 2009; Waters & Russel, 2016).

The explosive development, rapid growth, and improvement of communication technology coupled with the advent of the internet have vastly leveraged the significant and accelerated growth of educational opportunities, particularly for students worldwide. Introduction of technology and internet has provided new methods for teaching and learning. Many institutions

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of higher learning have adopted the e-learning techniques for their operations today (Su et al., 2005; Moore & Marra, 2005; Farmer, 2004; Sharples, 2000).

Advances in technological approaches and computer skills among students have rapidly enhanced the asynchronous online discussion forums (Shana, 2009). Online discussion forums provide an open opportunity to the students for active participation in online learning. Moreover, it also enhances the participation of students, who may feel inhibited, when required to engage in discussions in a traditional classroom setting. According to Kanuka (2005), critical thinking of students can be improvised through online discussion forums. The claim has been supported by Perkins & Murphy (2006), who developed a model for measuring engagement in critical thinking on online discussion forums.

The unprecedented growth of online learning has triggered widespread scholarly interest in different matters. These matters are not only restricted to online teaching and learning but also involve the scope of courses and programs that are available in different institutions. The fundamental goal of the approach has been recognized to remove the barriers of time and place to promote students' self-directed learning. It can also enable the academic staff benefit by moving from a teacher centred approach to a learner centred one. As such, understanding the determinants of effective learning in online discussions is deemed critical during the learning process. The nature of this emerging landscape of personalized learning in higher education is gaining more popularity in the educational sectors with time. Studies have indicated that online discussion forums are beneficial to the learning experience in numerous disciplines (Son, 2006; Little, Titarenko & Bergelson, 2005; Jin 2005).

Scope of the Study

The current study focuses on how learners, particularly at the Abu Dhabi University, perceive these discussion forums and to what extent they have really benefited, whether perceived or real, from these institutionalized forums? This study aims to explore how teaching has adapted to the modern styles and enhanced the teaching learning process. It has been presumed that online discussions can be an effective way to strengthen student learning outside the class if only students agree to engage honestly in these discussions.

Hypothesis of Study

In order to evaluate the study objectives, four hypotheses have been formed for the investigation:

H_o: There is no significant relationship among age of the respondents and online forums developing critical thinking skills among students.

H_1: There is a significant relationship among age of the respondents and online forums developing critical thinking skills among students.

H_o: There is no significant difference between gender of the respondents and encouragement to share information.

H_2: There is a significant difference between gender of the respondents and encouragement to share information.

H_o: There is no significant difference between the frequency of participation and positive learning experience.

H_3: There is a significant difference between the frequency of participation and positive learning experience.

H_o: There is no significant difference between online discussion forums helping to share ideas and knowledge between participants and increasing students' participation in teaching and learning as compared to the face-to-face instructional settings.

H_4: There is a significant difference between online discussion forums helping to share ideas and knowledge between participants and increasing students' participation in teaching and learning as compared to the face-to-face instructional settings.

On the basis of the aforementioned hypotheses, the primary emphasis of this study is to examine whether the educational experience of students through discussion forums have been enhanced in reality or not. Moreover, the study also aims at determining the students' perceived opportunity to interact, view knowledge, and information from multiple perspectives, and reflect upon this information. In order to address the rationale of the study efficiently, the literature

which is concerned with emerging role of the instructors and the elements of best practices in discussion forum use have been taken into consideration.

Research Questions

1. Is there any significant relationship between age of the students and online forums that develop critical thinking skills among them?

2. Is there any significant difference between gender and encouragement among students to share information with peers?

3. Is there any difference between the frequency of participation and positive learning experience among the students?

4. Is there any difference between online discussion forums that help in sharing knowledge and face to face instructional setting in teaching practice?

Conceptual Framework

Discussion, in the process of learning, is considered as one of the most critical dimensions. Moreover, Kolb (1984) proposed that the enhancement of learning experience seems to occur through regular participation in discussions. Whether these discussions take place in a traditional classroom or through online teaching using electronic means, their importance is integral to both the achievement and satisfaction of learners (Zhang & Fulford, 1994; Fulford & Zhang, 1993). A study by Kadagidze et al., (2014) have indicated the role of instructor, which should be undertaken for developing an environment of the forum. Moreover, the role of instructor may depend on what the instructor tries to achieve. The role of the instructor is important in several methods of online education (Ma et al., 2015). Simply forming a discussion forum, providing the technology, and a question or topic of discussion is not enough to ensure the success of the discussion model (Guldberg & Pilkington, 2007; Ma et al., 2015). Some factors within such structures appear to go beyond the control of the instructors; it may include the personalities of learners enrolled in the discussion forum and their preferences for interaction among the group (Guldberg & Pilkington, 2006).

Online discussion forums represent one of the most popular repositories of user-generated information on the internet (Distante et al., 2014). Online learning is generally considered as one of the models of blended learning. It has been realized to be an increasingly common aspect of

online learning, which has gained significance in the contemporary approach, directed towards the use of discussion forums (Vlachopoulos & Cowan, 2010). The technique of online learning has been identified as the most common contemporary approach used by the students because online learning has become one of the most popular increasing trends among educational uses of technology (Means et al., 2013; Tarman & Baytak, 2012; Tarman, Baytak, & Duman, 2015). With respect to online learning, it has been stated that "the online environment is not the ideal setting for all types of learning. Classrooms are not perfect either..." (Alvarez, 2005). E-learning is not a 'one size fits all' magical solution that can resolve any educational problem as it may also present disadvantages to this type of learning. Consequently, there is no way to guarantee that 100% of e-learning content will reach 100% of the intended audience. Different learning styles have been promoted among students, which is a current challenge in e-learning environment for academics (Clark & Mayer, 2016). The conventional techniques may not be appropriate in the classrooms in the modern era, where the e-learning is playing a vital part for delivering better education. In order to understand the requirements of the students, diversity in the virtual class is needed to be comprehended (Islam et al., 2015). The idea delivers an urgent need to clearly understand what the right circumstances are and how e-learning can help to produce the best results. For the purpose of resolving the differences, two inquiries must be considered:

First approach associated with the managerial role, which has been referred by Coppola et al. (2002). It inquires what the instructor needs to do in order to stimulate a good discussion. The second approach inquires that once the discussion is underway, how much should the instructor intervene? Moreover, it has been identified that successful questions or discussion topics mainly relate to the learning objectives that provide clarity as per the due dates, expectations, and grading. The manner can transform the learning objectives into learning outcomes (Guldberg & Pilkington, 2007; Majeski & Stover, 2007). Furthermore, Fung (2004) investigated the manners of discussion and proposed this idea. It has been observed that when discussion questions or topics are specified and relate to the concept or idea presenting the course content, discussions provide more success despite the variances and complexity of interaction between the learners.

The presence of an instructor is more important as compared to the perceived presence of peers and students' satisfaction (Swan & Shih, 2005)). However, an instructor, who may contribute significantly to a discussion, tends to decrease the length of discussions, as well as

their frequency. On the contrary, it has not been observed to decrease the quality of discussions necessarily. Thus, it has been observed that an instructor can decrease learner-learner interaction as learners rely on the instructor to answer questions and a mediate the debates (Guldberg & Pilkington 2007; Paloff & Pratt 2001). The instructor may intervene but only in order to keep the discussion on track or take on a cheerleading role to motivate the discussion (Dysthe, 2002; Paloff & Pratt, 1999).

Role of a cheerleader or motivator is critical in such system. It is the learner-learner interaction that truly engages with ideas and relates back to the statements of Kolb (1984) that 'discussion is a critical component of the learning process, not waiting for the answers to fall from Heaven's academic prophet.' Preferably, it has been stated that an instructor should spend his/her time for the preparation of materials and to carefully think about the discussion questions and topics that may efficiently associate with the learning objectives.

Clearly, there is significant value in the use of online discussion forums. Nevertheless, collaboration and constructivist approaches for teaching do not develop with the availability of technology only (Garrison, 2007). Although, online discussion forums have been widely used for about a decade, there is still room for applying effective strategies and tactics for the use. It is important how the discussion forums are organized in the development procedure. It has been observed that it is important for the students to find information about what they are searching for and they must be aware of what they search and seek (Mokoena et al., 2013).

Methodology

As per the nature of the study, the quantitative approach has been utilised to evaluate the students' impressions on the effectiveness of online discussion forums among the students of Abu Dhabi University, UAE. The significance and requirement of online discussion forums have been effectively evaluated by analysing the perceptions of the students of the university quantitatively.

Research Design

As the study primarily focuses on identifying the perception of students towards learning through online discussion forums, quantitative research design has-been opted for the investigation.

Data Collection

A structured questionnaire has been designed for data collection to pinpoint the aspects and features that are approved by students. The questionnaire comprised of the factors regarding the significance of online discussion forum and regular participation. The questionnaire was based on a 5-point Likert scale from 1 to 5 rating strongly agree to strongly disagree.

Sampling Procedure

The random sampling approach has been employed to recruit participants in the study. The study was only based on Abu Dhabi University, so the students of all educational levels were recruited in the study. A total of 150 questionnaires were distributed among different departments of the Abu Dhabi University, from which 105 were received with completely filled data.

Sample Size

A total of 105 students have been considered as the sample of study, who actively participated in online discussion forums. The respondents have been selected through random sampling approach such that each member had an equal chance of being chosen.

Data Analysis

Data has been analysed through descriptive statistics that was to identify age, gender, and frequency of participation of study respondents. The reliability and validity of the data have also been analysed through Cronbach's alpha. The value of Cronbach's alpha was greater than 0.70, so it has been concluded that the collected data was reliable and valid. Chi-square test was also applied to test the hypotheses of the study. If the value of chi-square appears below the level of significance ($p<0.05$), the null hypothesis should be rejected and an alternative is accepted.

Reliability Test

After data collection, reliability was tested by computing the value of Cronbach's alpha. From the table of reliability statistics, it has been observed that the value of Cronbach's alpha is

0.811, i.e. greater than 0.70. Therefore, it has been said that collected data is reliable and valid enough to produce good outcomes. Table 1 represents the test for reliability statistics.

Table 1

Reliability analysis

Case Processing Summary			
		N	%
Cases	Valid	6	100.0
	Excluded (a)	0	.0
	Total	6	100.0
Reliability Statistics			
	Cronbach's Alpha		
	.811		

Ethical Consideration

An informed consent form was distributed among the participants to ensure the confidentiality of the data collected. The consent declared that the data collected will be kept confidential.

Findings

This study has been carried out in order to examine the perception of students towards online discussion forums, as well as to evaluate whether their performance can be enhanced through these forums. In order to evaluate the age and gender of study participants, descriptive statistics has been applied. Age groups have been categorized into three groups: 14-17 years, 18-24 years, and 25-34 years. From the outcomes of Table 2 and Figure 1, it has been assessed that majority of the participants belong to the age group of 18 to 24 years (91.4%). On the other hand, 7 respondents belonged to an age group of 25 to 34 years; whereas, just 2 participants belonged to the age group of 14 to 17 years.

Table 2

Descriptive statistics for age groups

Age Groups					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	14 - 17 years	2	1.9	1.9	1.9

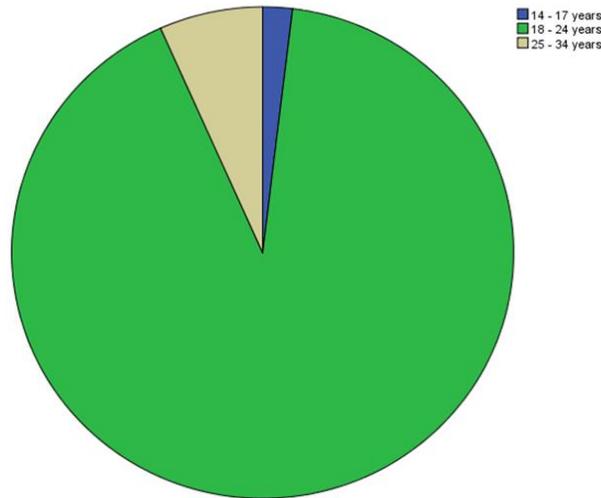|				
18 - 24 years	96	91.4	91.4	93.3
25 - 34 years	7	6.7	6.7	100.0
Total	105	100.0	100.0	

Figure 1: Age distribution of study participants

Descriptive statistics for gender has been evaluated and presented in Table 3. The outcomes showed that majority of the participants were the female while, only 34 respondents were male students.

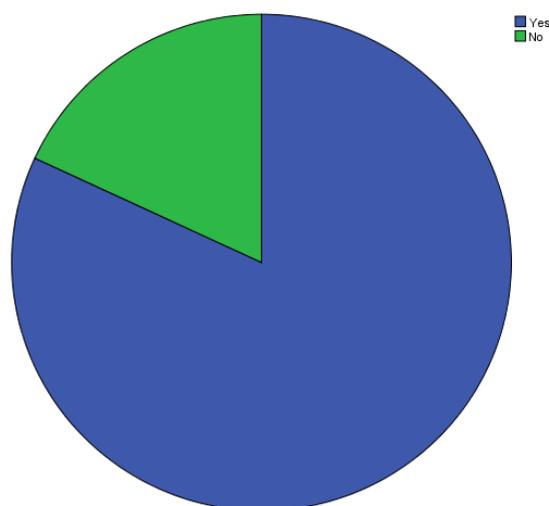**Table 3**

Descriptive statistics for gender

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	71	67.6	67.6	67.6
	Male	34	32.4	32.4	100.0
	Total	105	100.0	100.0	

Considering the online discussion forums, descriptive statistics have been applied to examine the percentage of students, who actively participate in these discussion forums. It has been analysed through outcomes that approximately 82% of the students participate in online discussion forums; whereas, the remaining 18% did not actively participants in these discussions. The results for participation can be observed from Table 4 and Figure 2.

Table 4

Descriptive statistics for participation in online discussion forums

Participation		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	86	81.9	81.9	81.9
	No	19	18.1	18.1	100.0
	Total	105	100.0	100.0	

Figure 2: Participation in online discussion forums

With respect to the usage of online discussion forums, frequency distribution has been applied to generate the outcomes. Table 5 demonstrates that majority of the students have been using these discussion forums on a weekly basis; whereas, 40 participants reported that they have been using these forums occasionally. On the other hand, it has also been identified that just 7 participants used online forums on a daily basis. Furthermore, it has been observed that 10 participants have never used online discussion forums for study purpose.

Table 5

Frequency of the usage of online discussion forums

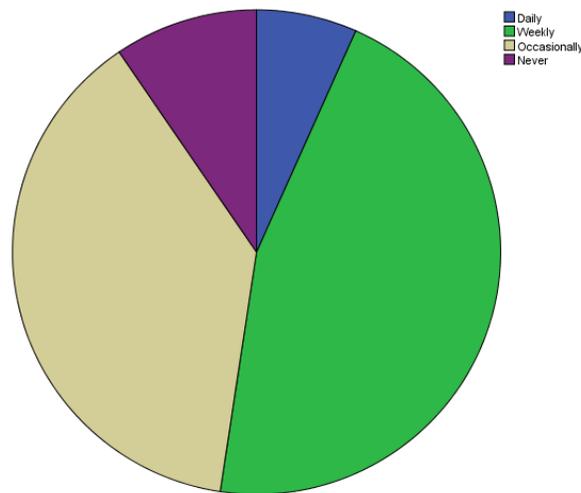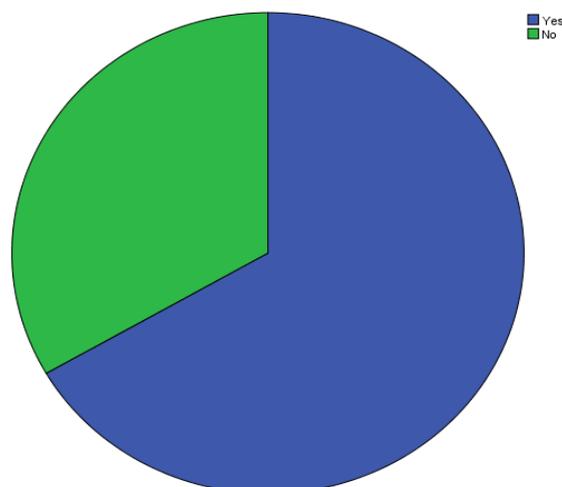| Frequency		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Daily	7	6.7	6.7	6.7
	Weekly	48	45.7	45.7	52.4
	Occasionally	40	38.1	38.1	90.5
	Never	10	9.5	9.5	100.0
	Total	105	100.0	100.0	

Figure 3: Frequency distribution for the use of online discussion forums

When the respondents were inquired about their regular participation in online discussion forums, it has been observed that almost 66.7% students participate in discussion forums on a regular basis (Figure 3). On the contrary, 33.3% of the participants reported that they are not regular users of online discussion forums. The statistics for regular participation of students can be observed in Table 6 and Figure 4.

Table 6

Frequency for regular participation in online discussion forums

Regular Participation					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	70	66.7	66.7	66.7
	No	35	33.3	33.3	100.0
	Total	105	100.0	100.0	

Figure 4: Regular participation in online discussion forums

For the improvement of GPA, chi-square test among online discussion forums and the age of respondents rendered significant contribution to the study. Results of Pearson chi-square demonstrated a significant value of 0.306 that presented no statistical significance among online forums and age of the participants to provide an opportunity for developing critical thinking skills. Hence, an alternative hypothesis has been rejected and the null hypothesis was accepted. Table 7 reveals the outcomes obtained through chi-square test.

Table 7

Relationship between online discussion forums and age of study participants

Age * Contribution Cross Tabulation						
Count						
		Contribution				Total
		Strongly Agree	Agree	Neutral	Disagree	
Age	14 - 17 years	0	1	1	0	2
	18 - 24 years	5	32	37	22	96
	25 - 34 years	0	0	6	1	7
Total		5	33	44	23	105

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.164a	6	.306
Likelihood Ratio	9.473	6	.149
Linear-by-Linear Association	1.433	1	.231
N of Valid Cases	105		

A. 9 cells (75.0%) have expected count less than 5. The minimum expected count is .10.

For the second hypothesis, chi-square showed a greater p-value of 0.281 that demonstrated no significant difference between encouragement to share information and gender of the respondents. Therefore, the null hypothesis has been accepted and an alternative was rejected. The results of chi-square distribution can be observed in Table 8.

Table 8

Relationship between gender of participants and encouragement to share information

Gender * Valuable Cross Tabulation						
Count						
		Valuable				Total
		Mostly True	Sometimes	Rarely	Not True	
Gender	Female	11	45	13	2	71
	Male	9	15	8	2	34
Total		20	60	21	4	105

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.828a	3	.281
Likelihood Ratio	3.777	3	.287
Linear-by-Linear Association	.001	1	.981
N of Valid Cases	105		

A. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 1.30.

When the association among frequency of students' participation in online discussion forums and their positive learning experience has been examined, the outcomes reflected that there is a significant difference between the two. Table 9 displays a p-value of 0.000, which is less than the level of significance (0.05). Hence, it has been concluded that null hypothesis is rejected and an alternative was accepted.

Table 9

Relationship between frequency of participation and positive learning experience

Frequency * Contribution Cross Tabulation						
Count						
		Contribution				Total
		Strongly Agree	Agree	Neutral	Disagree	
Frequency	Daily	3	4	0	0	7
	Weekly	0	17	27	4	48

Occasionally	2	9	15	14	40
Never	0	3	2	5	10
Total	5	33	44	23	105

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	45.762a	9	.000
Likelihood Ratio	39.179	9	.000
Linear-by-Linear Association	15.059	1	.000
N of Valid Cases	105		

A. 10 cells (62.5%) have expected count less than 5. The minimum expected count is .33.

Last hypothesis has been examined through outcomes that presented the value of chi-square as 0.147 i.e. greater than the level of significance. Therefore, it has been concluded that there is no significant difference between online discussion forums that may help to share ideas and knowledge between participants and increases the participation of students in teaching and learning as compared to the face-to-face learning environment. Hence, the study rejected the alternative hypothesis and accepted the null hypothesis. The results for this hypothesis are displayed in Table 10.

Table 10

Relationship between online discussion forums to share knowledge between participants and increase their participation as compared to the face-to-face instructional settings.

Share knowledge * Students Participation Cross Tabulation

Count

		Students Participation		Total
		Yes	No	
Share Knowledge	Yes	68	30	98
	No	3	4	7
Total		71	34	105
		Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square		2.100a	1	.147
Continuity Correction		1.063	1	.302
Likelihood Ratio		1.949	1	.163
Fisher's Exact Test				
Linear-by-Linear Association		2.080	1	.149
N of Valid Cases		105		

Discussion

From the outcomes, it has been examined that majority of the respondents actively participate in online discussion forums on a regular basis, which enables them to enhance their learning. It has been evidenced through past studies that discussion forums enable the students to actively participate during a class session, particularly the students, who typically do not participate (Asterhan & Eisenmann, 2011; Ng, Cheung & Hew, 2010). Moreover, it has also been evaluated that discussion forums have a potential to enhance participation of students (Salter and Conneely, 2015).

Constructive criticism extensively enhances the performance of students. The utilization of quality feedback is helpful to develop a constructive learning approach for enhancing the learning and teaching in higher education (Du Toit, 2012). Teachers must ensure that students undergo critical evaluation and are directed on how to improve in areas, where they are falling short (Reece & Walker, 2016). Teachers must display subtle attitude as strictness can have a negative impact on the interest of students towards the subject. This can be best done by acknowledging the efforts of students, whilst instructing them about other alternatives on how they can improve their work. Free discussions and feedbacks resulted with the development of pleasant relationship among the students and teachers (Ribas & Perine, 2016).

A study by Tiernan (2014) indicated that participation in discussion and debate among students and student engagement with lectures can effectively improve their learning and experience of University. As the study presented that online discussion forum has significance among the students of Aby Dhabi University, so the lecturers must be confident to provide students with directions for online discussions. This online forum must be simple, to the point, and does not cause any confusion among the students (Rose & Smith, 2007). A lecturer must have the necessary foresight and opt for methods that may help students in learning without getting them off the track. Any glitches must be resolved immediately as the goal is to have a dynamic discussion around a topic in a timely manner. In order to actively participate in online discussion forums, students are required to be highly motivated. This can be done by tracing out what topics are confusing for the students and providing them with examples to think about. The teacher must create an environment where all opinions are welcomed, so that students feel free to express their opinions and gain a rich and varied experience. Moreover, it is not enough to inform students that they will be graded on their participation in the discussions; they may also

be aware on the procedure of grading. There should be specific guidelines and rubrics that explain the assessment techniques and grading mechanism (Rose & Smith, 2007).

Teachers must be clear in their instructions to ensure that students accomplish the goals of learning. Students must not feel confused about what is expected of them during the online activities. Explicit guidelines are required to ensure clarity and develop a purpose for the students. This declaration may consist of directions regarding how often students should post comments in the discussion forum site and how many they ought to post, what the pattern of their contribution should be, how the students should approach the subject, and what is expected of them (Roper, 2007).

It is important to ensure maximum participation on the online discussion forums; for example, the forums can be organized effectively with each topic given its own thread. This kind of supportive environment not only motivates students to go to the thread easily but may also help them to locate what they require. Social presence is vital to ensure that discussions are fun and informative. Students must feel connected through online forums that can be achieved through proper monitoring to ensure that discussions follow the right etiquette and avoid from deviation. Social presence is the extent to which students and teachers project themselves through online forums as real people (Garrison, 2007). Social interactions enhance learning community and underpin the development of a community of practice (Irwin & Berge, 2006). The development of social presence can be enhanced through tactics, which mainly comprise of using online introductions (Pelz, 2004) and the provision of social spaces (Heckman & Annabi, 2006). The tone of discussions and students' belief that the forums provide a safe environment is also critical (Anderson, 2004). The instructor can effectively provide the platform to use online discussion forums and can also moderate discussions and deal appropriately with unacceptable behaviour (McGuire, 2017).

Types of questions that are posted on online forums may not always receive responses from students. In order to encourage students to voluntarily engage in the activities, discussions must be intriguing and diverse. Students must be challenged by the discussions, thereby elevating the feeling of satisfaction when they arrive at results and theories for proposed questions. Professors must try to make the discussions and questions as innovative as possible thus, making the discussion interesting and enabling students to think out of the box. Neal & Akin (2007) proposed several questions that included inquires for more evidence, questions that ask for

clarification, open questions, linking or extension questions, hypothetical questions, cause-and-effect questions, and summary and synthesis questions.

Outcomes of the present study also reflected that there has been no significant difference among the encouragement to share information and gender of the study participants. Furthermore, the relationship among frequency of participation of the respondents and positive learning experience has also been evaluated. It has been determined through results that there is a statistically significant difference between these two. The outcomes are observed to be consistent with those of Song & Mcnary (2011), who demonstrated that online discussion forums resulted in the efficient and positive learning experience for students. This is due to the active participation, interaction, and engagement of students in online discussion forums. Considering the effectiveness of online discussion forums in sharing of the knowledge and ideas, it has been evaluated that there is no significant difference among sharing of the ideas between participants and enhancement of the participation in teaching and learning than what has been obtained from face-to-face interactions.

Discussion, Conclusion and Implications

Online forums are generally known as message or discussion boards, which enables the participants to interact with each other more efficiently. In order to bring significant improvement in learning skills, online discussion forums play a substantial role as an effective mechanism for the students. There are many advantages associated with the approach of online learning. Students are observed to be in favour of a self-regulated aspect of asynchronous discussions, in contrast to face-to-face interactions with peers and teachers. The purpose of online discussion forums is to promote the interaction among peers and encourage the students to be less dependent on the instructors. On the other hand, the discussion forums have also been observed to play an effective role in developing and acquiring employability skills among students. It can be concluded through results that frequent participation of students in online discussion forums is beneficial, as it enables them to enhance their positive learning experience. Therefore, the Abu Dhabi University must promote the online discussion forums to enhance the communication and interaction level of the students.

Limitations and Future Recommendations

The present study was based on only a single educational institute of Abu Dhabi University in UAE and recruited the students, who are enrolled in this university. It has been recommended that future studies should employ quantitative data from a larger sample size of the participants and recruit more universities together. It would enable this research to progress beyond being a relatively modest repetition of previous research.

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