

ONLINE FORUM IN BIOTECHNOLOGY EDUCATION: A STUDY FROM THE STUDENTS' PERSPECTIVE

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ABSTRACT

Interaction and communication through online forum is a widespread practice for the university students. To date, many reports indicate positive feedback on the implementation of online forum into the traditional face-to-face teaching and learning process, however the students' responses on this pedagogical tool in biotechnology education in Malaysia is yet to be reported. The main objective of this study is to learn about the students' perspective towards the integration of online forum into formal educational process. The feedback from the students were obtained through the questionnaires. The feedback shows only about 5% of the students has experienced taking online forum as formal educational event prior to this study. A total of 56% of the respondents agreed that online discussion had motivated them in their learning process, 61% of them found that the discussion had inspired their creativity, and about 53% of them found that the discussion had increased the interaction between their course mates. On the list of the factors that had motivated them to join the online forum, the students were most concern about the marks carried by joining the forum, closely followed by while the topics which could draw their interest. This study found that online forum is a good tool in teaching biotechnology courses.

Keywords: Biotechnology education, online forum, blended learning students' feedback

INTRODUCTION

Many educational bodies and teachers is leveraging on the widespread of internet technology by blending the usage of internet into their traditional face-to-face teaching approaches, which many of them are in the field of biology and biotechnology (Hejmadi, 2007; Morris, 2010; Ranganathan et al., 2007). The integration changed the demography in teaching and learning with more and more teachers had moved towards the blended learning. Some teachers even suggested the design of an ideal full online course (Carr-Chellman&Duchastel, 2000). As the web can be a medium of delivery and interaction, the constraint of time and space of online study have been minimized.

Online forum has become a popular way of communication and interaction between the university students, aided by many free online forum host, such as Facebook.com and Twitter.com. The forum, which can be accessed through internet connection has become an important source of knowledge and a supplement to teaching and learning process (Markel, 2001).

Online forum was reported could bring benefits to the participated students, including the upscale of student community (Dawson, 2006), participation and collaboration (Ruberg et al., 1996), promote critical thinking, and constructive learning (Warschauer, 1997; Dehler&Parras-Hernandez, 1998). Although it can be a good pedagogical tool, the forum raised some controversial as well, such as the lack of academic discussion and the control of the instructors (Markel, 2001; Thomas, 2002).

The objective of this study is to learn about the students perspective on the integration of online forum into their formal teaching and learning process. This study is important as it is a pioneer study on the online forum in biotechnology education in Malaysia. The result of this study is served as the indication of students' acceptance towards online forum as a formal educational event.

BACKGROUND OF THIS STUDY

INTI International University, Malaysia initiates student centred learning and starts encouraging the academics to change the teaching style from teacher centred to student centred since May 2010. The

Centre for Instructional and Technology Support (CITS) had named blended learning as one of the major focus of student centred learning approaches.

Biotechnology lecturers in INTI International University are currently in charge of the students from different programs, namely the Bachelor of Biotechnology, Australian Degree Transfer Programme, and American University Transfer program. The transformation from the traditional teacher centred to student centred learning is proven a challenge for both the lecturers and the students. As a initiative to move towards student centred learning, online forum has been taken by the authors as the first approach in blended learning.

In this study, online forum has been conducted for the students from all three programs named above. All the 108 students who had joined the online forum were cooperatively completed the questionnaire. The main objective of this study is to learn the students' perspective on the integration of online forum into their formal educational process.

METHODOLOGY

Online forum has been carried out for several biotechnology courses offered by INTI International University, namely Genetics 3202 for Bachelor of Biotechnology, Genetics 202 for Australian Degree Transfer Programme, and The Principle of Biology of American Universities Transfer Programme. A total of 108 students who had taken one of the respective courses were required to send their feedback through questionnaire at the end of the semester (week 14 of the semester).

The online forums were held through the university's in house online platform, hosted by INTI Online. The access to the platform is limited to the lecturers and the students of INTI International University only. The forums were created according to different courses. The students could only join the forums created for their courses (Fig. 1).

One to two topics related to the respective courses were posted, with notices sent to all the participating students. The forum closed within one to two weeks after the initiation. There was no limitation on number of comments and the minimum words applied for each of the comments. Teachers, who served as facilitators, elicited the students to discuss deeper into the topics with minimum interference, through personal emails and comments with open-ended questions. At the end of a forum, summary based on the contents of the discussion was given as a wrap-up to the forum. The students joined the forum individually, with marks given to them based on the evaluation by the teachers. The forums served as supplements to the lectures, not substitution of the lectures.

In order to encourage the participation, coursework marks were given to all the participating students, based on the level of participation (number of comments) and the knowledge impact to the forum (the comments contain facts, references, good examples, and strong and logic arguments).

The Student's Perspective

According to the survey, 70% of the students are aware that online forum discussion can be a way to acquire knowledge. However, only 5 out of 108 (4.6%) had taken the forum before in formal educational event prior to this study. The result indicated that despite the popularity of online forums among the youngsters, not many students had ever exposed to online forum in formal educational event. That means, not many teachers had used the forum as a pedagogical tool in Malaysia, although the usage of the forum had been reported as relevant (Dawson, 2006; Hammond, 2000, Markel, 2001).

In the questionnaire, several items that reflect the motivation, creativity, interaction and cooperation within the discussion community of the students were highlighted. The responses from the students are shown in Fig. 2. From the survey, 56% of the students indicated that they were motivated in their learning process, while 61% of them stated that their creativity had been inspired. As the students nowadays are mostly internet savvies, motivated by the internet based learning tool is expected. As the discussion in the forum might requires the input from the students, which the process of thinking and putting arguments in place might inspire the creativity of the students. They might started to think out of the box as well.

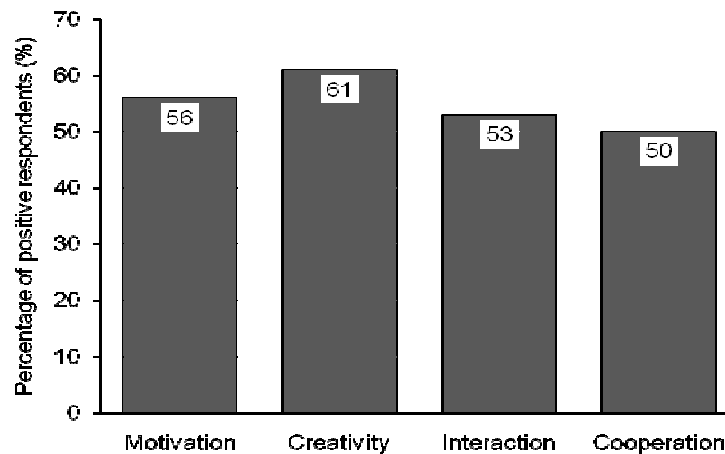


Figure 2. The responses from the students on the integrating of online forum into the courses of biotechnology

The students' feedback shows 53% of them agreed that their interaction between their peers were increased during the online forums, while half of them have the opinion that the online forum had promoted their cooperation. The low interaction was quite surprising as the discussions were made for interaction purposes. However, there were studies in fact stated otherwise, such as reported by Ellis (2001) which put the lack of interactive as one of the disadvantages of the online forum. The students found difficulties in making an effective communication and interaction, confused by the threads, while the instructor found difficulties to follow the discussion and respond promptly to the questions. Furthermore, some of the questions asked during the forum sessions attracted no answers.

Hammond (2000) stated that online forum could promote communication within the students, however, there were several constrains, such as some of the students might feared that their opinions and discussion might be exposed to public, their ability to put an argument in place, their capability to express their points in details in words, and putting the words in orderly form. Cooperation between students was not a focus as the forums conducted were individually evaluated. However, cooperation between the students could be detected in the sense that some of them formed discussion circle personally.

A total of 72% of the students had chosen online forum over the traditional writing assignments, while 39% of them agreed to substitute face-to-face lecture with online forum. Majority of the students preferred the forum to the formal assignment, as some of them responded:

“Save papers.”

“Go green.”

“More flexible.”

“Opinion based, thus more knowledge and less time consumption.”

“More effort is needed for formal assignment.”

As indicated from their responses, students preferred online forum, might due to the possibility that formal assignment required more effort to be done, in two aspects. First, it is easier to post many short comments with less grammatical constrains than to write and to organize a long project or an essay. Secondly, a conventional writing project bears more sense of responsibility compared to the online forum message. Flexibility and so called opinion-based forum is another advantage for the tool, while go green and save papers showed the students were concerned about the environment.

Between online forum discussion and face-to-face lecture, most students still prefer the latter as some of them commented:

“More detail compared to online forum discussion.”

“Useful tips can only be given by the lecturer face-to-face.”

“The learning process is slow in online forum discussion.”

“Interaction with face-to-face is more effective.”

“Many repetition in the forum.”

The online forums were conducted in asynchronous way in this study. The students could leave their comments for a period of time before the conversation continued. As the discussion platform was shared by many participants, the flow of the information was limited and less organized. For example, a student might responded to a comment posted a few threads before the current one. The level of students' participation in class might affect their perspective on online forum. For active students, the interaction in online forum discussion might not be sufficient to feed their crave of knowledge, while face-to-face lecture has the advantage where the instructor can assist to clear the doubt on the spot without any delay. Repetition in the forum is inevitable, as many might have the same response or answer to one of the question, such as “yes” or “I agree”. Without prompt moderation, the online forum might be flooded with these short comments. Besides, as the discussion goes on, the long and confusing threads might caused the repetition of some of the points as well.

Lastly, the students were required to rank the factors that had motivated their participation. The factors, from most important to the least, namely were the mark assigned, interesting topics, relatedness to syllabus, time freedom, accessibility, and less interference from the instructors, as shown in Fig. 3.

FACTORS THAT INFLUENCED THE STUDENTS' PARTICIPATION

The marks assigned was the top motivator for the students to join the forum showed the students were result oriented, which more or less might affected by the national education system where the result is greatly emphasized, starting from the primary school level of education. However, “interesting topics” was not far away with 365, showing that the topics chosen by the instructors were the elements of motivation to the students. Time freedom sat on number three as many of the students nowadays like more freedom. They like to conduct their discussion whenever they like, wherever they like, as far as they can access to internet. Less interference by instructors were the least important factor showed that the students were comfortable with the participation of the instructors in their forum.

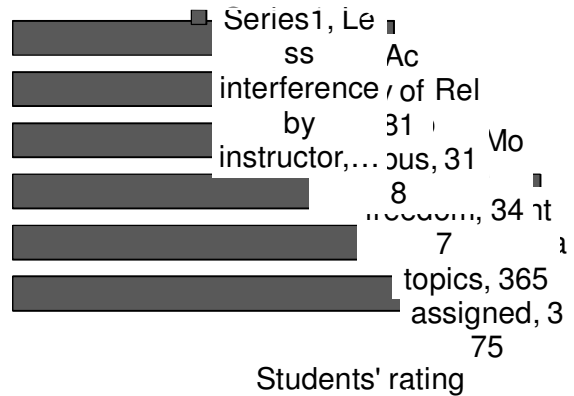


Figure 2. Students' rating over a few factors that had motivated their participation in online forum.

The students opinion about online forum discussion might affected by the way the instructors had carrying it out. The design of the forum, which includes the clear instruction, the ways to encourage students' participation, internet speed and accessibility, the user interface of the forum provider, and the appropriate involvement of the instructors contribute to the positive attitude of the participating students. The integration of online forum into formal educational process might be new in INTI International University, or even in whole Malaysia. The result of the study found that it might be a good idea to make online forum a pedagogical tool in Malaysia.

CONCLUSION

Online forum could be served as a learning tool in formal educational event in INTI International University, as majority of the students participated have given positive feedback towards the online forum. The students were driven to participate the forum, mostly by the marks assigned and the interesting topics, and they took least care about the interference from the instructors in the forum. Despite the limitation number of subjects and higher education institution, the result of this study can serves as an indication of the students perspective over the online forum in Malaysia.

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