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<b>Author(s)</b>	<b>Hew, KF; Cheung, WS</b>
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# Using asynchronous online discussion in education: Lessons learned over the last ten years

Wing Sum Cheung  
Learning Sciences & Technologies Academic Group  
National Institute of Education  
Nanyang Technological University  
SINGAPORE  
wingsum.cheung@nie.edu.sg

Khe Foon Hew  
Learning Sciences & Technologies Academic Group  
National Institute of Education  
Nanyang Technological University  
SINGAPORE  
khefoon.hew@nie.edu.sg

**Abstract:** Over the last ten years we have been exploring the educational use of asynchronous online discussion (AOD) at a university in Singapore. While the advantages of using AOD have been widely reported, the challenges or problems of using it have received lesser attention. This paper briefly reports the three main challenges we faced in actual lesson implementations of AOD in the last ten years. These challenges are “Assignment mode”, “No time for discussion”, and “lack of in-depth critical thinking”. In addition, we also made some suggestions to overcome them.

## Introduction

Over the last ten years we have been exploring the educational use of asynchronous online discussion (AOD) at a university in Singapore. The literature discusses a number of advantages for the use of AOD in education (eg, Branon & Essex, 2001; Guzdial & Turns, 2000; Hew & Cheung, 2003; Newman, Johnson, Webb, & Cochrane, 1997). While the advantages of using AOD have been widely reported, the challenges or problems of using it have received lesser attention. This paper briefly reports the main challenges we faced in actual lesson implementations of AOD, as well as some suggestions to overcome them.

## Our Context of Using Asynchronous Online Discussion

The National Institute of Education in Singapore has provided all faculty members and students with the “Blackboard” learning management system (LMS) to use since 2000. Blackboard has been used to provide administrative information, supplementary course materials (e.g., suggested reading resources), and required course materials (e.g., assignment information, and course schedules). In addition, we typically ask students to participate in AODs by using the “Online Discussion” forum in Blackboard.

Over the last ten years, we have been conducting AODs with students (e.g., pre-service teachers, in-service teachers, graduate students) hailing from the diploma level to the PhD level. An AOD forum may be defined as a text-based computer-mediated communication environment that allows individuals to interact with one another without the constraint of time and place (Hew, Chueng, & Ng, 2009). The benefit of contributing at their own pace means that students have time to reflect on their own as well as other students’ comments (Murphy & Coleman, 2004). We summarize some of our AOD activities in Table 1.

Table 1: Examples of Using Asynchronous Online Discussion

<i>Types of Online Discussion</i>	<i>Description of the discussion activity</i>
Critique of each others' projects	Students were enrolled in a "Hypermedia Design and Development" course at the National Institute of Education, Singapore. They designed and uploaded the drafts of their hypermedia courseware projects. They were given 4 weeks to critique each other's projects on the online discussion forums (Cheung & Hew, 2006)
Case study discussion	A case study about a beginner teacher who used ICT (information and communication technology) with his students in a computer lab. There were many problems or issues faced by the teacher in the case. Pre-service teachers were asked to asynchronously discuss the problems in the case with other students. In addition, they were expected to generate solutions to cope with the problems (Hew, 2002).
Applications of learned concepts and theories	After the post graduate students were taught about the concepts of engage learning and learning style, they were asked to participate in an online discussion. For examples, the students were asked to discuss about the following questions: "How teachers can implement ICT Masterplan II for engaged student learning?" and "How ICT can be employed to address different students' learning styles? (Hew & Cheung, 2008, p.1114)".

### **Main challenges of using AOD**

The main challenges that we encountered in actual lesson implementations of AOD throughout the last ten years may be clustered into three main areas. These challenges include "Assignment mode", "No time for discussion", and "lack of in-depth critical thinking".

#### **Assignment mode**

Many students participated in AOD with the mind set of merely doing or completing an assignment. After the discussion question or issue was posted, they typically replied to the initial question only. They seldom responded to their classmates' postings. They appeared to be mainly interested in telling the instructor that they had participated in the online discussion so that the instructor could not fault them even though the number of message posted was disappointingly low. Consequently, the entire discussion resembles a mere question and answer session. To overcome this problem, we used the following two approaches. First, we conducted warm-up activities to explain the meaning of *discussion*. We showed students several good and poor examples of discussion postings. Specifically we drew upon the work of Bretz (1983) and Henri (1992) to define discussion as the exchange of ideas involving at least the following three-step process: a) communication of information; b) a first response to this information; and c) a second response relating to the first. Second, rather than using discussion questions or issues that called for a single, fact-based answer, we used open-ended questions or issues where there may be more than one possible answer or opinion. Empirical studies conducted elsewhere have found that using open-ended questions could trigger more students to respond to each other (eg, Poscente & Fahy, 2003).

### **No time for discussion**

Usually we gave students one week to participate in the online discussions. However, some students had only limited or no participation at all. So, we increased the AOD duration to two or more weeks. Intuitively, one would have expected that time is an important factor for more postings to be made. However, we found that length of time did not play a significant role in promoting more student postings (Hew & Cheung, in press). We also attempted to reward the students with marks to motivate them to participate during the allotted discussion time. Yet, in some cases, we found that even this did not work.

The major reason was that during the online discussion period, students had too many other commitments (eg, assignments, projects, and tests). So, although we gave them time for the online discussion, they could not find time to do it. We found that the availability of time is actually an issue of competing priority (Cheung, Hew, Ng, 2008). Some students, when faced with other commitments, were not willing to participate in the online discussions even although marks were rewarded. On the whole, this experience suggests that it is perhaps more useful to consider the question of *when*, rather than merely *how long* students should participate in the AOD. Educators should consider avoiding the use of AOD in periods where students have other heavy commitments.

### **Lack of in-depth critical thinking**

We also found that one of the most common problems of using AOD is that students do not show in-depth critical thinking. For example, we found that students tended to merely state that they share the same conclusions or opinions offered by other individuals without taking these further, or make conclusions or judgments without providing any justification (Hew & Cheung, 2003b). There are two main reasons for this. First, students are reluctant to challenge each other or voice dissenting viewpoints. Second, the facilitator does not know how to facilitate the discussion in order to help the participants generate in-depth postings.

To overcome the problem of students exhibiting surface-level thinking, we used the following approaches. First, we focused our attention to help students get to know one another in face-to-face settings before the actual AOD session. Instructors should not simply rush students into participating in AODs especially if the students are new and unfamiliar with one another. We found that once students were familiar with one another, they were more motivated to contribute their viewpoints including conflicting ones (Cheung et al., 2008).

Second, we granted students anonymity in the discussion environment. Our recent research indicated that when there was anonymity, more participants tended to post their comments and viewpoints in the discussions, as well as showed more evidence of in-depth level of critical thinking (Cheung, Hew, & Foo, 2009).

Third, instructors should consider assigning students to play certain roles in the online discussions. Empirical research suggested that AOD forums that had students playing roles such as “problem generator” to elicit problems and underlying assumptions from participants, “skeptic” to play the devil’s advocate, and “reflector” to clarify and validate other participants’ responses showed higher critical thinking means than forums that did not (Duphorne & Gunawardena, 2005).

Fourth, we trained the facilitators to facilitate the discussion in order to help the participants generate in-depth postings, especially in the use of proper questioning techniques. While there are numerous types of questioning method such as inquiry, and rhetorical divergent, Socratic questioning is hailed as the most helpful in fostering in-depth critical thinking (Painter, 1996). According to Paul (1990), Socratic questions include: (a) questions of clarification, (b) questions that probe assumptions, (c) questions that probe reasons and evidence, (d) questions about viewpoints, and (e) questions that probe implications and consequences. Our recent research, together with other empirical studies, suggested that the use of Socratic questions (eg, questions of clarification and about viewpoints) could help sustain an online discussion, as well as motivating student in-depth critical thinking (Hew & Cheung, 2008; Yang et al., 2005; 2008).

### **Conclusion**

AOD has become an integral part of the learning environments in many schools and universities around the world in the past two decades. While many instructors desire their students to get the maximum benefits out of AOD, this is easier said than actually done due to certain challenges of using AOD. We hope that the sharing of

our accumulated research and experience in the use of AOD in education will be useful to other researchers and instructors who are similarly interested in the same subject. Our future work will include the investigations of group size, as well as facilitators' habits of mind, and how it might influence students' degree of participation (eg, number of postings, level of knowledge construction) in AOD forums.

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