Requirements for Enhancing the Interaction in Distance Education Using Videoconference System

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Abstract

The requirements for the better interaction in videoconferencing classes named ‘g-class’ were investigated. The ‘g-class’ is coordinated by the host professor at Korea University and the guest lecturer from the institutes overseas. The ‘g-class’ is done in English and was launched from the fall semester in 2007. Based on the case-studies of ‘g-class’, the requirements of the active ‘g-class’ were approached from the two aspects, technical consideration and pedagogical consideration, depending on the stages of the class. The lecturer encouraged the students to join the class more actively by various teaching strategies. In spite of some technical problems at the beginning, most problems could be minimized by the technical support of TA (Teaching Assistant). For attracting the students’ interest, the guest lecturer adopted a quiz session with randomly chosen problems. By using ‘web sync mode’ function, the lecturer could present the more various supplementary on the web as well as the basic course materials. The attendants in off-line class obtained better grades than the purely on-line attendants, indicating the importance of the interactions among students as well as between the lecturers and the students.

Keywords

g-class, videoconferencing classes, interaction, e-learning

Introduction

The globalization in the higher education is a hot issue nowadays, revealed by the interest on the English-mediated course or the efforts on scouting of the foreign scholars for the faculty members. But the limitations of the accessibility owing to the physical distance, unwillingness for changing the positions and the finite financial supports can make the globalization efforts look inefficient. To overcome the shortage of the available resources, the concept of ‘g-class’ (real-time online class across the countries) working at the low bandwidths was suggested and adopted officially for the regular credits by the collaboration between the foreign guest lecturers and the host professors at Korea University. In order to compliment the shortcomings of existing e-learning, more efforts were focused on the real-time feedbacks and various ways to implant in the real classes: using the mobile phone, regularly changing the seats in front of the web-cameras, frequent quizzes, etc. In this report, we suggest some optimized real-time online classes which can be useful in the globalization issues with the better efficiencies in teaching & learning.

1 Screenshot of ‘g-class’ using the Tablet PC

Figure 1 shows a screenshot of a ‘g-class’ system using the tablet PC. From the survey of students, a simple change of the slides without any scripts does not draw the students’ attention and makes the students tired after 15 minutes later.

Figure 1: Adopting the script in the real-time on line class for the better concentrations

The demonstration by the script with a tablet PC could draw much interest by the students with the longer concentrated time. So the usage of tablet PC was recommended to the ‘g-class’ lecturers.
In some cases, the usage of Microsoft OneNote in the demonstration mode of the application program could facilitate the real-time script for the better understanding and the resultant lecture notes after the class for uploading to the LMS (Learning Management System) as shown in Fig. 2.

Figure 2: a simple LMS for saving the recorded class. Television symbols indicate the existence of the recorded class. The lecture without television symbols indicates the live-class only.

Depending on the lecturers, the live-classes without recording were more preferred, indicating the wider acceptance of ‘g-class’ even though they did not want to be shown in public. The locking function by passwords facilitated the willingness of the lecturers as they wanted.

Similarly the abrupt problem submission by quiz function and the play of the multimedia files were helpful for the students to keep their interests on the lectures. “web-sync” function was very efficient for the students to get more ideas and finding good examples from the internet together with the lecturers. The facilitation with different activities was more desirable for avoiding the students’ attention during the lectures. To see the efficiency of the interaction with the classmates in class, the comparison of the records was investigated between the attendants in class and the on-line attendant at home.

2 Influence of the interaction among the students

Figure 3 shows a typical view of ‘g-class’ conducted between France and Korea University. Majority of two hundred students in class did not have their own computers except for the teaching assistants. Being physically present in the classroom was not compulsory but optional, so that they were allowed to log into the classroom from home. The needs for the feedback in the situation without the individual computers led to the development of our mobile phone feedback system between the lecturer and the student. The existence of the neighboring classmates was expected to make the students more awaken and focused.

Figure 3: Attending students in front of the projectors in a ‘g-class’

Figure 4 shows the significant score distribution between the attendants in class and the on-line attendants at home.

Figure 4: Distribution of the grades between the classroom attendants and the on-line attendants

As clearly seen from the distribution, the attendants in the classroom showed higher records than the purely on-line attendants, indicating the importance of the interaction among the students even in the on-line classes. After confirming the efficiencies of the attendance, the attendance was recommended for the better learning by the students.

The g-class allows for chatting among students and lecturers for more interaction. Despite technological functions, the students preferred being physically next to one another. In one class, the students were put in a multimedia classroom where each student was in front of a computer terminal. Majority of the students reported that they felt “distant” from one another in classrooms. The inference we may draw on the two types of
interaction in the classroom – teacher-student interaction and student-student interaction from the g-class is that technological tools and functions assist better interaction between the teacher and the students. For example, sharing web pages, various applications, SMS function, quizzes, and chatting all aided in better communication and higher satisfaction of students. However, when it comes to student-student interaction, technological tools were not as effective. Although there are chatting functions and note-sending functions to one another, they felt the interaction was better when they were physically together in class.

3 Summary
A better efficient on-line class across the countries was suggested and tested for the different situations. The investigation showed the importance of the interactions among students in the on-line classes.