Strategies for the Use of Synchronous Computer-Mediated Communication in Education

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Abstract

Synchronous communication techniques allow participants to contribute from different locations at the same time. The tools available include chat, desktop videoconferencing (DVC) and GroupWare. Although these online techniques are probably the most similar to face-to-face teaching, it cannot be assumed that traditional teaching skills will necessarily transfer successfully or easily. This paper examines some of the potential strategies in the use of synchronous computer-mediated communication in education.

Introduction

The use of synchronous computer-mediated communication in education brings some unique benefits. Small groups of students can be combined to make a viable class or expertise can be made available at different sites. When students are on-campus they may be able to contact industry mentors and while on practicum keep in touch with teaching staff. Travel expenses can be reduced as meetings or classes can take place virtually.

There are also some unique problems. The logistics of arranging suitable meeting dates and times with appropriate partners can be daunting. When working in an international setting this is compounded by differences in time zones. Narrow bandwidth and lack of reliability can be major technical hurdles. Perhaps the major problem is that the interaction provided by using expensive technology may simply be the same occasional question. This paper looks at some of the strategies for increasing participation and interaction using these technologies.

Setting the scene

It is important to structure synchronous sessions in order to gain maximum participation. Components that can be adjusted include group size and type, duration, scheduling and outcome of task. In order to prevent anti-social outbursts it is helpful to establish and publish rules for good ‘netiquette’. The moderator needs to model considerate behaviour as well as actively enforce the rules. To ease anxiety and enhance communication it is important to build a climate of trust and safety that encourages collaboration. While it is important to generate controversy and promote critical thinking, students can easily be offended if their efforts are criticised. To minimise this effect it is useful to encourage students to say something positive at the beginning of a critique and to offer suggestions for improvement where appropriate. For example, “Bob, I find your ideas on surrogate motherhood very interesting. However, have you considered the following argument, which would not support your conclusion …” [2].

Students need to be aware that opinions alone are not enough. Responses should be supported by data and argument and more importantly ‘re-examined in light of what others in the online group are thinking’ [3]. Where contributions include “I do agree” or “I don’t agree” they should be followed by “because …” [2]. Requiring a deliverable, such as plans, designs, papers, reports, portfolios, as an outcome also helps students avoid simply expressing ideas and opinions [3].

If students never have the opportunity to meet face-to-face, digital photos of the students and teacher(s) can be posted to help establish an online identity or ‘telepresence’.

E-seminars

‘One of the best ways for student to understand a topic is to organise and simplify it in order to present to others’ [2]. Students can be given responsibility for researching particular topics and provide an e-lecture, lead an online seminar or contribute questions for discussion or examination based on their research.

Guest Lecturers

Communication tools allow access to people working directly in the area of study such as international experts or work-place mentors.

Collaborative Projects

Students can work collaboratively on projects with others from around the world. These projects may be artificial or based on real-world problems. In some cases, the results can lead to changes of real significance. For example, schools from around the world have been involved in collecting data on ‘acid-rain’. The data is later combined and analysed to give scientists a more global picture.
Debates, role-plays and simulations

Methods such as debates, role-plays and simulations are well suited to both synchronous and asynchronous online environments. They allow students to get a deeper understanding of an issue, position or procedure than they would in a typical lecture or tutorial format. Chat spaces can help create a virtual environment to give online role-play a more authentic feel. For example, one group used such a system to support a United Nations trade negotiation exercise. Each ‘country’ was given its own UN chat room where students could chat and make decisions on trade-offs before going to the UN room to negotiate with other countries. In a well-known Australian example, Internet-based role-play simulations have been used successfully in teaching Middle East politics at Macquarie University for a number of years. Teams from Macquarie interact with teams from universities located around the world. While students develop a strong understanding of the content they also report gaining important diplomacy/political skills and experience in seeing issues from other points of view [4]. Simulations can be set up by establishing artificial environments. This does not have to be done solely through computer-conferencing. A range of online resources can be made available to help establish the simulation. Dramatic tension can be established by incrementally releasing information.

Electronic Office Hours

Students often expect faster response times in an electronic environment with some expecting almost instant answers even on the weekend. Time and date stamping also lead to increased accountability. One study of an online subject found that a major source of student frustration was due to the lack of prompt feedback [1]. One way to deal with unrealistic expectations is to set and advertise ‘electronic office hours’. Using synchronous communication methods these can be maintained from any location with Internet access.

Desktop videoconferencing

The tendency to use expensive technology to simply replicate lecture presentations needs to be avoided. If a lecture style is necessary, it is recommended that the ‘talking head’ component be kept short and broken up liberally with graphics presentations, demonstrations and questioning. Teachers who are used to standard videoconferencing facilities report missing the capability of sending slides to remote sites. These can be sent by e-mail in advance or use can be made of a ‘shared whiteboard’ if available.

GroupWare

The data entered into a GroupWare session can be from different sources for a variety of educational purposes. For example, the session might be to brainstorm ideas; organise and classify information; facilitate peer review; identify concepts from assigned readings; generate suggested solutions to a real life problem; make a list of troublesome vocabulary or develop a group dictionary; collect student feedback and questions during a lecture; conduct a simulated (or real) meeting; rank items using electronic voting; collaborate on a piece of writing.

Conclusion

Synchronous communication can be used to increase the active engagement of students. However, it is important to note that active learning is more than just pressing keys and reading off the screen. The strategies listed here are just some of the methods that can be employed to increase student engagement. It is recognized that best practice will only develop over time as we share both the successes and the failures of the use of synchronous communication in education.

Reference List