SMS Messaging Enhancing Student Engagement in Large Lectures: A New Zealand Based Study

Introduction and Background

A number of studies including Draper & Brown (2004) have identified the importance of placing pedagogy before technology when contemplating the introduction of technology into a learning setting; with Draper (1998) highlighting that those introductions of technology that did make a difference were those where a problem was identified and solutions were sought for that problem. One such problem that had been identified in Draper and Brown was the use of lecturing to large classes, with the most common point of weakness being noted as the lack of interactivity. This approach was adopted in an earlier piece of research that the author was involved in (Nesbit and Martin, 2010) where the problem that was identified was the difficulty in getting students to interact verbally in large lectures, with this study having focussed a first year information systems course with in excess of 200 students enrolled in it.

Prior Study

The work of Nesbit and Martin (2010) included a literature review that explored the importance of giving feedback to students; some of the drivers towards the need for large classes and the problems this can create for student engagement (Draper and Brown, 2004); the use of classroom response systems (CRSs) or clickers to increase student engagement in large lectures (Flies & Marshall, 2006; Scornavacca et al, 2007; Freeman & Blayney, 2005). They then went on to describe the development of a system that allows students to use short message services (SMS) or texting to send messages to a lecturer as the lecture progressed so that the lecturer can select particular messages to share with the entire class. This was different to many of the earlier studies involving CRSs in that the responses sent in were open-ended. In the Nesbit and Martin (2010) study the text messages were the responses from small group discussions that had been held during the lecture. Anecdotal responses from the students were that this was a good idea and was worth pursuing with.

Research Method for this Study

In the semester after the Nesbit and Martin (2010) study took place the system was used extensively in a second year accounting information systems course with approximately 170 students enrolled. During this course the system was used in three different ways:

- Students to asking questions of the lecturer

- Students answering questions that had been asked by the lecturer

- Students giving feedback from small group discussions during the lecture

At the end of the course the students were surveyed and asked to indicate how often in this course that they would be likely to participate in each of the manners shown in Table 1. Note that the manners of participation in the first column are the verbal interactions corresponding to the texting applications in the second column.

Interrupting the lecturer to ask a question	Texting the lecturer to ask a question
Answering a question asked by the lecturer	Texting the answer to a question asked by the lecturer
Telling the rest of the class what their group had talked about in a small group discussion	Texting what their group had talked about in a small group discussion
Asking a questions about a test/exam during a review session	Texting questions about a test/exam during a review session

Table 1 – Manners of Participation

Results of this Study

Of the 170 students enrolled in this course, 63 of the students responded to the survey for a response rate of 37.1%.

The comparison of how willing the students are to interrupt the lecturer to ask questions and how willing they are to text questions to the lecturer is shown in Table 2. A simple chi-squared test was conducted that showed that there is a very significant difference between the two sets of responses.

	Often	**Occasionally**	**Hardly Ever**	**Never**	**Total**
Interrupting the lecturer to ask a question	1	2	8	52	63
Texting the lecturer to ask a question	20	24	12	7	63

Table 2 – Frequency of Responses Comparing Verbally Asking Questions and Texting to Ask Questions

The comparison of how willing the students are to answer a question asked by the lecturer and how willing they are to text answers to questions asked by the lecturer is shown in Table 3. A simple chi-squared test was conducted that showed that there is a very significant difference between the two sets of responses.

	Often	**Occasionally**	**Hardly Ever**	**Never**	**Total**
Answering a question asked by the lecturer	2	15	27	19	63
Texting the answer to a question asked by the lecturer	19	20	14	10	63

Table 3 – Frequency of Responses Comparing Verbally Answering Questions and Texting to Answering Questions

The comparison of how willing the students are to tell the rest of the class what was talked about in their small group discussion and how willing they are to text what their small group had talked about is shown in Table 4. A simple chi-squared test was conducted that showed that there is a very significant difference between the two sets of responses.

	Often	Occasionally	Hardly Ever	Never	Total
Telling the rest of the class what their group had talked about in a small group discussion	2	10	26	25	63
Texting what their group had talked about in a small group discussion	15	19	13	16	63

Table 4 – Frequency of Responses Comparing Verbally and Texting the Results of Small Group Discussions

The comparison of how willing the students are to ask questions in a test/exam review session and how willing they are to text questions during a text/exam review session is shown in Table 5. A simple chi-squared test was conducted that showed that there is a very significant difference between the two sets of responses.

	Often	Occasionally	Hardly Ever	Never	Total
Asking a questions about a test/exam during a review session	7	22	20	14	63
Texting questions about a test/exam during a review session	29	18	9	7	63

Table 5 – Frequency of Responses Comparing Verbally and Texting Questions During Test and Exam Review Sessions

Analysis and Conclusions

The results presented above show that there is a very significant difference in this group of students regarding their level of engagement when texting responses to responding verbally. There are many potential reasons for this, with some of these being highlighted in some of the existing literature on the use of CSRs with many of these relating to anonymity (Scornavacca et al, 2007; Freeman & Blayney, 2005). The students in this study also provided some open ended responses that were consistent this.

Further analysis of these open ended responses will provide the background for a more extensive survey to be used after a more extensive trial of the technology. This will extend to analysis the responses based on the first language of the students; the age of the students and the gender of the students; and the nature of the learning activities taking place.

The results of the use of the system in the initial study by Nesbit and Martin (2010) and in this study point to this approach being very useful in enhancing student engagement in large classes.

References

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