

Apps on Smart Phones to Increase Engagement in Lectures: Student Focus Group Perspectives

Introduction and Background

This paper is part of an ongoing study into the use of applications on mobile devices (for example smart phones) to enhance student engagement in large lectures. This phase presents an initial analysis of the results of a focus group that was conducted with a group of students about their perspectives. In the two classes the application Socrative was used to allow students to submit open ended responses to questions that they had discussed in small groups so that the lecturer could give feedback to the entire class on their responses.

Earlier phases in the study have included the development and trial of an SMS-texting based application (Nesbit & Martin, 2010; Nesbit, 2012), identifying that the ownership of smart phones had reached a level where the study could move to applications on mobile devices (Nesbit, O'Steen & Bell, 2013), an initial analysis of the experiences of lecturers who have used applications and the resulting benefits (Nesbit, O'Steen & Bell, 2014), an initial analysis of the experiences of learning advisers who have supported lecturers using applications (Nesbit, O'Steen & Bell, 2015a), and an analysis of student responses to a survey regarding the use of applications across two accounting information systems courses (Nesbit, O'Steen & Bell, 2015b),

One of the motivations for conducting the focus group was to triangulate some of the findings of the earlier phases of the study with a model that had been developed from the literature with the aim of further validating some of the findings, particularly as they relate to the importance of anonymity, issues surrounding the ownership of devices like smart phones, the time needed to cover course content and the importance of feedback from the lecturer.

Relevant Threads from the Literature

The study completed by Kay & LeSage (2009) identified six threads relating to the use of audience response systems in lectures, with the studies reported on in Nesbit, O'Steen & Bell (2015a) and Nesbit, O'Steen & Bell (2015b) adding two additional threads and some additional aspects to the original threads. The threads are presented in Figure 1, with the additional threads and aspects that were added being indicated with an asterisk (*).

Outline of Research Method

Seven students responded to an email invitation to participate in the focus group. The students were from two classes that had been taught by one of the authors in the previous semester, with the invitation not being sent to students that were being taught by any of the authors in the semester the study was completed in.

In the first part of the focus group the students were given a list of 15 statements (see Figure 2) and were asked to rank the statements into order based on how strongly they agreed with them. A more general discussion surrounding the use of Socrative followed this, however this discussion is not reported on in this paper.

The statements and the results of the rankings are shown in Figure 2 and are sorted by the average ranking of how strongly they were agreed with. The standard deviation of the ranking for each statement is also shown.

Classroom Environment Benefits Attendance Attention Anonymity Participation Engagement Learning more Enjoyable *	Technology Based Challenges Students not having or not bringing the Required Device Technology not Functioning	Pedagogical Issues * Good Teaching Strategies * Specifically Addressed as Pedagogical Issues * Issues Relating to Large Classes * Social Constructivism * Question Driven Instruction or Contingent Learning * Instructional Design * Learning Styles and Cultures * Optional or Mandatory Participation *
Learning Benefits Interaction Discussion Contingent Teaching and Question Driven Instruction * Learning Performance Quality of Learning	Lecturer Based Challenges Responding to Student Feedback Coverage of Course Content Development of Effective Questions *	Cost and Simplicity of Devices * Cost for Students * Cost for Lecturers and Their Institutions * Ease of Use for Students * Ease of Use for Lecturers *
Assessment Benefits Feedback Formative Assessment Comparing Responses	Student-Based Challenges Adjusting to a new method of teaching Discussion of topics creating confusion or wasting time Too much effort required by students Summative assessment issues Attendance for grades Identifying students Negative feedback Students with disabilities	

Figure 1 - Threads Emerging from Literature – Adapted from Kay & Le Sage (2009) and reported in Nesbit et al (2015a, 2015b).

Results and Analysis

An initial analysis of the ranking of the statements reveals some interesting findings relating to the literature and earlier phases of this research when it comes to the importance of anonymity, requiring students to have their own device, losing time to cover course content, not over using the applications, and the importance of feedback from the lecturer.

Anonymity

The importance of anonymity of student responses was highlighted as being very important in the literature as well as in the interviews of lecturers (Nesbit, O’Steen & Bell, 2014), interviews of learning advisers (Nesbit, O’Steen & Bell, 2015a) yet in the surveys of students was not seen as having quite the same level of importance (Nesbit, O’Steen & Bell, 2015b). The data in Figure 2 shows the statement relating to anonymity (statement 1) has a mean ranking of 9.4 which puts it more than half way down the list which appears consistent with the results of the surveys (Nesbit et al, 2015b). However this particular statement has the highest standard deviation of the rankings across the students (5.7) indicating a wide variation in the rankings for these students (rankings of 1,2,11,11,13,14,14) which suggests that there is a very high level of importance for some of the students.

	Statement	A	B	C	D	E	F	G	Mean	SD
11	I would happy with using an application like Socrative to do multi choice quizzes to check on learning during lectures	2	2	8	2	3	4	10	4.4	3.4
7	The lecturer giving feedback on responses to open ended questions helps my learning	5	9	4	6	1	3	4	4.6	2.7
12	Socrative is easy to use	1	1	7	5	6	10	3	4.7	3.1
5	I would be happy to ask the lecturer a question using an application like Socrative	10	14	5	3	2	1	1	5.1	5.0
6	I am happy to work on my own answering questions using an application like Socrative	3	8	10	8	5	5	2	5.9	2.9
15	Questions where there isn't an obvious correct answer are better for my learning	8	7	3	9	10	2	5	6.3	3.2
4	Answering questions out loud and getting them wrong makes me feel bad	13	10	1	7	7	9	9	8.0	3.3
3	I would be happy if we were all required to use an application like Socrative during lectures	7	4	9	14	12	12	7	9.3	3.7
9	If doing questions using an application like Socrative shows I am understanding the content then I am less likely to study it	9	5	6	4	13	13	15	9.3	4.8
1	Being able to respond anonymously using an application like Socrative is important for me	14	13	2	1	11	11	14	9.4	5.7
8	I am happy to work in small groups answering questions using an application like Socrative	4	12	13	11	9	6	11	9.4	2.5
2	It is possible to overdo it using an application like Socrative	11	15	14	13	4	8	8	10.4	4.3
10	I would be happy if an application like Socrative was used to take attendance in lectures	6	6	11	10	14	14	12	10.4	3.0
13	I would be happy if we were all required to get a device to run an application like Socrative on if we didn't have one	15	3	12	12	15	15	6	11.1	4.9
14	The time taken to use an application like Socrative can result in losing time for valuable content	12	11	15	15	8	7	13	11.6	3.4

Figure 2 – Statements Students Asked to Rank Level of Agreement with Ordered by Mean Ranking

Students Having Their Own Device

The survey of students in Nesbit et al (2015b) did not question students about issues relating the ownership of devices, however, it is paid a lot of attention in the literature and was paid some attention in the interview of lecturers (Nesbit et al, 2014) and in the interviews of learning advisers (Nesbit et al, 2015a). The statement that received the second lowest level of average agreement was statement 13 (requiring all students to have a device) indicating that there is a strong level of feeling about the issue of students being required to obtain devices that they currently do not have. It is interesting that statement 3 (requiring all the students to use an application like Socrative) is half way up the list as this separates out the ownership of the device from the use of the application.

Coverage of Course Content and Not Over Using the Applications

The issue of having time to cover course content was identified in the literature and in the some qualitative responses from students that have yet to be reported on elsewhere. It is interesting that amongst the students in focus group that the time taken to use an application can result in losing time for lecture content (statement 14) had the lowest mean level of agreement. While this may point to this not being a big issue from the student perspective, some caution is needed due to the students having volunteered for the focus group. The importance of not overusing the technology (statement 2) can also be seen in a similar light.

Importance of Feedback from Lecturer

Statement 7 regarding feedback from the lecturer helping learning has the second highest level mean ranking is consistent with the importance of feedback identified in the literature and in Nesbit et al (2014), Nesbit et al (2015a) and Nesbit et al (2015b).

Conclusions

The findings confirm the importance of feedback from the lecturers and the significance of the issue surrounding the ownership of devices. Some light is also shed on the high level of importance of anonymity for some students. The issue of coverage of course content and not over using the technology requires further exploration.

References

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