Chapter 6
Developing and Evaluating Practical Methodological Guidelines for use of Student Response System in Teaching

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ABSTRACT

This article presents methodological experiences and evaluation results obtained during introduction and testing of a new online student response system (SRS) for modern mobile devices at Sør-Trøndelag University College, in Norway. The aim of the test period was methodological development, based on student evaluation. Using in-depth interviews with students, awareness of how SRS was comprehended by the students in their learning process increased. Several methodological choices and practical challenges were faced when introducing SRS. The procedures and methodological choices were based on published experience and the authors’ assumptions. However, what was believed to be important pedagogical, were among the students perceived as positive but not in the way expected. The students have a clear perspective on their own learning process and gave insight into how SRS fit into their own learning process. Students’ perceptions regarding methodology, in combination with their own experience of learning, appear as a necessary ingredient for an appropriate implementation and use of SRS in teaching.

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INTRODUCTION

Key challenges associated with traditional teaching in higher education include low level of involvement among students, difficulties with implementation of various feedback activities and encouragement of active learning strategies such as in group discussions and larger class discussions. In an attempt to find possible solutions to such challenges several researchers and teachers have focused their attention to different technological tools. One of the tools that have received increasing attention over the past few years is student response systems (SRS).

SRS can shortly be described as a type of wireless technology aimed at promoting better communication, response and interactivity in large classrooms (Beaty, 2004). It is a technology that allows teachers to present a question or problem to a class and let students respond by using response devices. Responses are quickly summarized and aggregated for the teacher and students to see (Beaty, 2004). Based on the response data, both students and the teacher can get an idea whether key concepts are understood or misunderstood.

Research has identified several important advantages from use of SRS in teaching (Beaty, 2004). With the use of SRS students receive a clear confirmation on whether or not they actually have learned something and a clarification in relation to what they may have misunderstood (Rice & Bunz, 2006). Several studies show that student engagement increases significantly when SRS is implemented as part of their teaching (Horowitz, 1988; Dufrense et al., 1996; Gilbert et al., 1998; Everett & Ranker, 2002; Draper & Brown, 2004; Roschelle et al., 2004; Stuart et al., 2004; Masikunas et al., 2007). SRS also stands as a successful approach for managing discussions in large classes (Dufrense et al., 1996; Mazur, 1997; Draper & Brown, 2004; Masikunas et al., 2007). Research shows that SRS can help create active discussion among students, which further can promote more active learning in the classroom (Boyle & Nicol, 2003).

Use of technology in education is by no means a new phenomenon (Rice & Bunz, 2006). History is full of attempts and subsequent failures in relation to introduction and implementation of various technological innovations designed to improve ordinary teaching and students’ learning (Cuban, 1986). In light of this rather gloomy trend, it is perhaps appropriate to ask: what about the use of SRS? Or as Duncan (2006) asks: “are SRS just another educational fad?” (Duncan, 2006, p. 16). In other words, can use of SRS be classified as an instructional trend that will fade away as soon as the excitement has subsided? Considering that the majority of research shows several positive effects from use of SRS in classrooms, one cannot help but wonder what determines this technology “survival” from the fate of its failed predecessors, which leads to the following question: what separates a successful implementation of a response system from a less successful implementation?

Research shows that implementation and use of SRS, as a part of teaching, can act in many different ways. The system can be a supplement to teaching, or be a main pedagogical tool (Trees & Jackson, 2007). According to Beaty (2004), it is all about using the suitable pedagogical method. One example of a pedagogical choice regarding use of SRS is the questions (Duncan, 2006). The choice of questions in relation to the subject has to be considered, since the effect may vary with the subject (Stuart et al., 2004). Beaty (2004) recommends teachers to avoid simple questions that are based on memorizing, and rather use questions that call for careful appreciation and evaluation. Another pedagogical choice is the number of questions asked. It is recommended to create questions of good quality, rather than having a large quantity (Beaty, 2004; Duncan, 2006). According to Beaty (2004), SRS should not be used to fill the lecture with questions, but rather use it carefully with less questions of good quality.
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