Proceedings from EDEN annual conference “The Joy of Learning”, 12.-15.06, Oslo: Norway.

“I Enjoyed Using SRS in the Classroom” – A Research Study of Student Response System in Norwegian Classes and in Further Education of Language Teachers in Norway.

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**Introduction and background**

This paper describes a small scale pilot study leading to the inclusion of a student response system (SRS) as part of the curriculum in a further education course for language teachers. It also presents how the language teachers attending the further education course evaluated the SRS, both as a pedagogical tool in the classroom and as part of the curriculum of a further education course for language teachers.

In the literature, SRS is referred to by different names: *personal response system* (PRS), *audience response system*, *clickers* and *classroom response system*. The SRS technology makes it possible for a teacher to present a question or problem to the class, and the students will give their answer anonymously though a response device. The question can be a multiple choice question with one or more correct answers, yes/no or true/false. Alternatively, a problem with various possible solutions, i.e. no right or wrong, can be presented to the students in order to stimulate discussion in small groups or the whole class (see for instance 1-3). The answers from all the students may immediately be presented (as for instance a histogram) to the teacher and the class. All the students are given the opportunity to answer the teacher’s questions, compared to the usual show of hands, where only one or two students will answer. The teacher obtains an instant overview of the class’ knowledge on a particular topic, and the students will get instant feedback on whether they answered correctly. The SRS systems have been on the marked for many years, but have not received much attention as a pedagogical tool in Norway. This might be explained by the costs related to implementing the SRS technologies in a class room. The SRS referred to in this study is developed by Sør-Trøndelag University College (HIST). This particular SRS has the advantage that it is free of charge to use, and it works on computers, as well as iPods/iPads and Smartphones, as long as the device has wireless access the internet. Hence, it is not necessary to purchase additional  technological equipment since most schools in Norway already have these wireless internet and the students have access to at least one of the abovementioned devices.

Previous research has shown that students seem to find the lectures more enjoyable when SRS is used. In a study by Boyle and Nicol (2003, p.51), 98 % of the students in an *engineering mechanics* class concurred with the statement “*Using PRS […], helps me enjoy this class more than traditional lectures*”. Investigations at Sør-Trøndelag University College (HIST) consolidate these results; 44 students (out of 59) in a *physics* class said that they “agree” or “strongly agree” with the statement “*I enjoy attending lectures where SRS is used*” (Stav et al. 2010). The overall conclusion to be drawn from this previous research is that the students perceive SRS as fun and enjoyable.

However, the existing literature shows a bias of the SRS investigations, as the majority of research papers focus primarily on students in higher education and/or use of SRS in science classes. Our main project goal was to develop a new online course for **language** teachers in primary and secondary education. The course was aimed at languages teaches already working in school, and it was a 2000-level specialization course. We also wanted the course to include training in the pedagogical use of various digital tools in language learning. Therefore, we had to investigate whether SRS was perceived a suitable pedagogical tool in language classes. If we found that SRS had similar positive effects on language learning as reported in previous studies done in science classes, we would include SRS as curriculum in the new online course for language teachers.

**The pilot study**

We conducted a pilot study which included training of volunteer teachers in the use of SRS, and subsequent observations of these language teachers as they incorporated SRS in their own teaching. The observations were conducted the very first time the teachers tried the SRS in their classrooms, and consequently, it was the first time the pupils (mean age: 17;7) were introduced to the system. The subject was Norwegian; one class had a lesson on Norwegian language history, and the other was focused on literature, more specifically Romanticism. Afterwards, all the pupils had to fill out a questionnaire concerning the use of SRS. After the lessons, we interviewed two pupils from each class, and the teacher. Table 1 shows a selection of the questions from the questionnaire, and the results from both classes.

Table 1:   The pupil’s answers regarding the use of SRS in two Norwegian classes in upper secondary school

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **I strongly agree** | **I agree** | **I disagree** | **I strongly disagree** | **I don’t know** |
| “I enjoyed using SRS in class” | 25 | 18 | 2 | 0 | 0 |
| “The use of SRS made me more engaged in class” | 29 | 14 | 1 | 1 | 0 |
| “I found it easier to answer the teacher’s questions when it was anonymous via SRS” | 19 | 16 | 4 | 2 | 0 |
| “SRS should be used more in upper secondary school” | 22 | 18 | 2 | 0 | 3 |
|  | **To a high degree** | **To a certain degree** | **To some degree** | **To a minor degree** | **I don’t know** |
| “To which degree do you think that SRS can contribute to your remembering more of the subject-related content of the teaching?” | 17 | 23 | 4 | 1 | 0 |

The results showed that 43 (out of 45) pupils agreed or strongly agreed with the statement “*I enjoyed using SRS in class*”. 43 pupils agreed or strongly agreed that the use of SRS made them more engaged in class, and 40 pupils agreed or strongly agreed with the statement that SRS should be used more. All these results suggest that SRS contribute to more fun and more engagement in the classroom. Of course, one might argue that enjoyment and engagement do not necessarily lead to more learning. However, 40 pupils expressed that the use of SRS to a high degree or a certain degree would contribute to them remembering more of the subject-related content. As one pupil expressed in the interview afterwards: “*Jeg tror faktisk jeg ville lært en del mer, også. Det blir jo en naturlig følge av det å følge med, på en måte*”. (“*I actually think that I also would learn quite a bit more. That’s a natural consequence of paying attention, sort of*.”)

Since the observation was conducted the very first time the pupils met the SRS, one might think that their positive attitude stems from the charm of novelty and that this might wear off if the SRS is used on a regular basis. We specifically asked the pupils in the interview whether they thought the interest in SRS would wear off, but the interviews revealed that the pupils did not think so. They claimed that they would continue to pay more attention than they would have done with the traditional teaching as the SRS made them more involved in the teaching sessions. This implies that SRS is a pedagogical tool that would continue to be engaging for the pupils.

Prior to the observation, we gave 45 pupils a questionnaire and asked them how often they raised their hand in class to answer the teacher’s questions, and we discovered that 24 % of the pupils said that they “rarely” or “very rarely” did so. In other words, ¼ of a class rarely or very rarely engages in a traditional question-answer activity (Q-A). According to Klette (2004), the teacher-directed activities (which include Q-A activity) in 9th grade amount to 47 % of the classroom activities (p. 33). The pupils who rarely or very rarely engage in Q-A activity will take on a passive role during much of their time at school. Therefore, we wanted to see whether the use of SRS would make it easier to engage the whole class in the Q-A sessions. After the pilot study, 35 pupils agreed or strongly agreed with the statement “*I found it easier to answer the teacher’s questions when it was anonymous via SRS*”. 6 pupils disagree or strongly disagreed with the statement. We do not know whether these 6 pupils belong to the quiet ¼ of the class or not. However, it is likely that the 6 pupils who did **not** find it easier to answer the teacher’s questions via SRS are those who have no problems with raising their hands and answering the teacher in the regular manner. Still, an obvious advantage of the SRS in Q-A activity, is that **all** the pupils are allowed to give their answer to the teacher’s question, as opposed to the traditional manner where one, or perhaps two, pupils are given the chance to respond. And the majority of the class (35 pupils) thinks that the SRS makes it easier for them to answer the teacher’s questions.

The interviews with the teachers suggested that they too found the SRS to be a useful tool, and they noted that the SRS made it easier for them to maintain the pupils’ attention.

One of the teachers pointed out that it might be a danger that the pupils are so eager to use the SRS, that they spend their time in class just waiting for the next time they are allowed to “push the button”. In this respect, the pupils will be less interested in the teaching sessions, and only focus on the SRS sessions. However, the interviews with the pupils imply that they actually perceive themselves as paying **more** attention to the teaching because they know that they have to in order to be able to answer the SRS question correctly later on. All in all, the results from the questionnaire, the interviews with the pupils and the teachers clearly suggest that SRS is a pedagogical tool suitable for language teaching and that it can be used in language learning.

**The online course for language teachers and their experiences with SRS**

Based on the results from the pilot study, we incorporated SRS as part of the curriculum in online course for language teachers. The language teachers attending the course were offered a two-day seminar at the beginning of the semester, which included hands-on training in SRS.

As a compulsory activity, the teachers had to create a teaching plan including the use of SRS, and carry it out in their own English lessons. Afterwards, they wrote a blog about their experiences.[[1]](file:///D:\\html\\submissions\\B1\\081_Broseth_et_al.htm" \l "_edn1" \o ") The response from the language teachers attending the course suggests that they see many benefits in using SRS as part of teaching. First of all, the teachers mention the motivational aspect in using SRS. The pupils enjoy using a technological device in the classroom, and they wish to give the right answer to the SRS questions. Secondly, the SRS makes it easier to get the pupils attention. In one class, the pupils had to make the SRS questions themselves, and read them out loud to the rest of the class. Their peers then had to listen carefully to the alternatives, in order to answer the SRS correctly.[[2]](file:///D:\\html\\submissions\\B1\\081_Broseth_et_al.htm" \l "_edn2" \o ") Thirdly, the pupils enjoy the instant feedback presented to them as a histogram by the SRS. The teachers also found this feature very useful. They emphasise that they can use the instant results from the SRS to find out whether they need to go back and revise something they have said previously in the lesson since the SRS reveals if the pupils have actually understood the topic that the teacher has just explained to them. Finally, one of the teachers maintains that the SRS seems particularly beneficial for two groups of pupils: the silent ones, and the ones with attention challenges. Perhaps the motivational aspect that the SRS brings to the classroom has a particularly positive impact on the pupils who usually find it hard to concentrate over a long period of time. For the silent pupils, they will feel more actively engaged in the Q-A activities, and if the SRS frequently confirms that their answers are correct, the silent pupils might get the confidence to participate in the regular show of hands as well. However, this is something that must be investigated more closely in later research.

What we found most surprising was that the teachers thought that SRS could be used in as early as 2nd grade (age 7) in primary education. Initially, we believed that the SRS was a tool suited for lower secondary (age 13-15) and upper secondary (16-19), but the teachers maintained that it could easily be incorporated in lessons in the lower grades, too. However, here the technological issues are more challenging as primary schools often have dedicated rooms for computers. If the teacher wants to use SRS, the whole class then has to move to a different classroom. This is very time demanding and gives the teaching an unnatural and unfortunate break.

**Some reflections related to observed uses of SRS**

During the seminar with the teachers on the course and in the pilot study, we observed that the SRS question **and** the multiple choice alternatives were usually shown simultaneously on one Power Point slide. As an illustration, we’ll use an authentic example from the class on Romanticism. The SRS question was: *If you were Elizabeth Bennett, would you have said “I do/Yes” the first time Mister Darcy proposed*? The alternatives are given in (1-3).

1. Of course! This is a marvellous opportunity. Darcy is rich and handsome. Elizabeth is poor and soon too old to get married.
2. Of course not! To marry a man, who quite clearly thinks that he’s marrying beneath his dignity, and is troubled by this, is not an option. Love should conquer everything.
3. I don’t know. It’s difficult to fully understand how the social rules and conventions in Austen’s time affected a woman’s possibilities to choose.

In order to make sure that all the pupils focus on the question, and not begin to read the different alternatives straight away, we would like to suggest that the teacher first should reveal the question only. This will ensure that the pupils have their attention focused solely on the question, and we think that the risk of misunderstanding the question will decrease. In addition, if the different alternatives are quite long (as in example 1-3), we believe that they should be revealed one-by-one. Again, in order to make sure that the pupils focus specifically on the actual content and meaning of one alternative, instead of skimming through the alternatives, and perhaps not getting the difference between the various alternatives quite right. This will prevent the danger of pupils giving the wrong answer based on careless reading. In example (1-3), there is no right or wrong answer, but it is still important that the pupils understand the meaning and the differences between the alternatives. In addition, we maintain that it is vital that the teacher reads the question and the alternatives out loud to the class before the SRS session starts in order to help the pupils with dyslexia or other learning challenges to answer.

**Conclusion**

As the present study shows, SRS is a useful pedagogical tool also in language classes; in other words, the technology is not only restricted to science classes. The technology is well-suited for classes in lower and upper secondary schools, but can also be used in primary schools, if the infrastructure allows for it. Based on our study, it is not possible to say whether the use of SRS increases the learning outcome for the student/pupil, and this remains therefore an open question for further research. However, it is possible to draw the conclusion that the pupils find the teaching more enjoyable when SRS is used. This obviously contributes to other desirable effects, such as more motivation for learning and increased attention.

Based on the pilot study and the experiences made in the online course for language teachers, we draw the conclusion that it is beneficial to include training in SRS in further education for language teachers. In this way, they will be equipped with the skills to use SRS in a classroom as a means to vary their teaching. Teachers who succeed in engaging the whole class in their subjects are also likely to find their teaching more enjoyable.

**References**

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[[1]](file:///D:\\html\\submissions\\B1\\081_Broseth_et_al.htm" \l "_ednref1" \o ") The blogs are written in English, and are available at: <http://spraak6200.wordpress.com>

[[2]](file:///D:\\html\\submissions\\B1\\081_Broseth_et_al.htm" \l "_ednref2" \o ") The teacher noted that one should probably write down one keyword for each alternative on the blackboard in order to keep the different alternatives from each other, because it proved very challenging for the pupils to listen to the various alternatives, especially when there were many to choose among.