Students' attitudes towards and interest in science

A report from the research project "Science for Life"[1]

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Background, Aims and Framework

According to EU there is a strong need to renew science education to bring about a radical change in young people's interest in science education. The current importance of this question needs to be even more emphasized as young people's interest in choosing a scientific career is declining (EU, 2004 & 2007). One way to increase students' interest in science can be to bring in a humanistic perspective (Aikenhead, 2006) and to focus more on *scientific literacy* than *science literacy*. We have designed an evidence-based research project to understand more about how and why students in lower secondary school develop interest, knowledge and self-efficacy working with socio-scientific issues. The project is built up in three steps. In the first we have developed a teacher guide with six authentic cases. In the second step the students have answered a questionnaire, worked with the cases and then answered another questionnaire. Many of the questions have earlier been used in different context and therefore it will also be possible to compare the results from this study with others to see if there are any tendencies of change. Here we will give a picture of the students' view of science education and science in society. We will also compare girls' and boys' views of science and compare their interest in science with other subjects in school.

Methods and Samples

The students were asked to answer an attitude questionnaire. Before the started to work with the first case. In another paper submitted to the conference (Winberg & Lindahl) we have described how the questionnaire was developed. The questionnaire consists of six parts with questions about

A. the student's view of school
B. how good the student thinks s/he is in different school subjects
C. how interested the student thinks s/he is to learn more in different school subjects
D. the student's view of science class
E. the student's view of learning science
F. the student's view of science in society.

The data collection consists of 683 girls and 744 boys at the age of thirteen to sixteen from different parts of Sweden.

Some preliminary results

Diagram 1

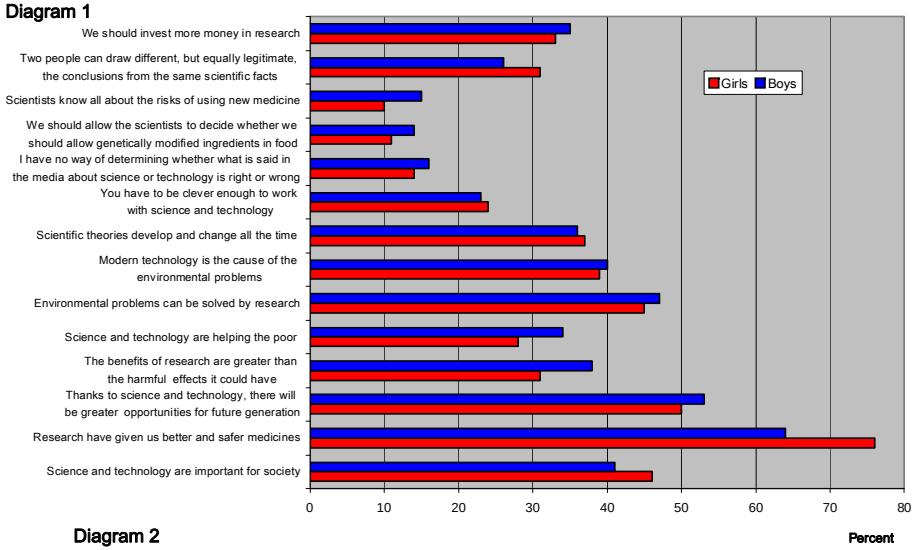

Diagram 2

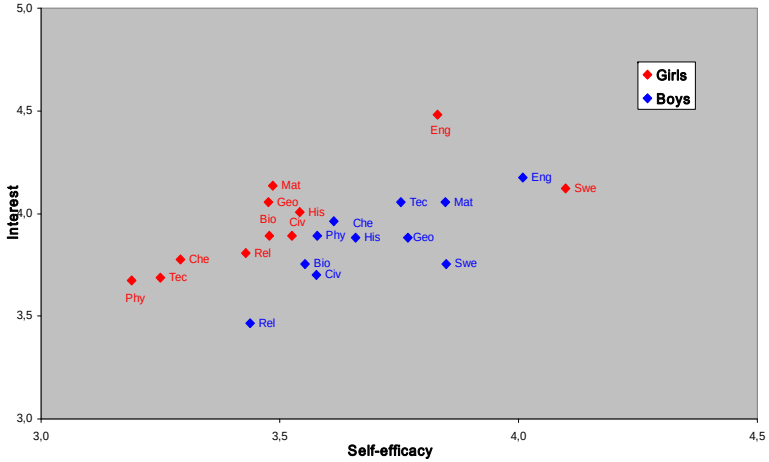

Diagram 1 shows the proportion of girls and boys who agree with the statements of science and technology in society. **Diagram 2** shows the relationship between the students self-efficacy and how interested they say they are to learn more in various school subjects. Each student self-evaluated to a value between 1 (not at all interested or not good) to 5 (very interested or very good). 3 is a "neutral" response on a scale 1-5. Then the average for girls and boys have been calculated for each subject.

Conclusion and the future…

Less of half of the students think that science and technology are important for society. This can be compared with the ROSE study (Schreiner & Sjøberg 2007), which showed that children in all countries agree strongly that science and technology are important for society, and the gender differences were negligible.

Both girls and boys in this study are most interested to learn more in English. Note the low level of interest to learn more from the boys in term of Religion. The boys have more self-efficacy than the girls in all school subjects except for Swedish. The same result gave the longitudinal study done by Lindahl (2003).

Further analysis of the data will give a deeper understanding about students attitudes towards and interest in science.

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