

## Transition from primary to secondary school

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Progression and transition are important concepts in trying to adjust science content in relation to students' learning and their encountering of school science. At this workshop two researchers highlighted this issue.

Anders Jidesjö, Linköping University, discussed pupils' interest in science and technology and based his presentation on results from the Rose project. Rose, the Relevance of Science Education, is an international comparative project meant to shed light on 15 year olds attitude to science and technology. The results show that young people have an interest in science and technology both at primary and secondary level, but there are differences in content orientation between the two age groups. But it is not successful to talk about interest in broad knowledge fields like 'science' or different 'school subjects', the science area must be specified. According to Rose, there is a great difference between the curriculum and pupils' interest and what they want to learn more about. Many of the items we traditionally teach in science classes are found among items that students do not want to learn. Science facts are in the bottom of the pupils list. Instead they are interested in scientific issues such as what to eat, how to keep your body in shape, astronomical matters, phenomena that we cannot yet explain and do not have a clear opinion about. These are important results for primary as well as secondary teachers.

Martin Braund, York University, emphasized the problems of disjunction in pupils' learning at transfer from primary to secondary school. Pupils in primary schools look forward to doing science in secondary school but their enthusiasm is soon blunted by needless repetition of work. Braund stressed that there is evidence of significant regression from Key Stage 2 to Key Stage 3 in pupils' performance in national tests in science. The reason for that can, according to Braund, be that many secondary schools adopt a 'tabula rasa' approach teaching science as a result of a lack of knowledge of and trust in pupils' experiences of primary science. Secondary teachers may not be aware of the extent to which pupils enter their schools. They often underestimate pupils' knowledge when they come from primary school. A way to solve such problems is to use bridging unit (eg. bread unit). This is one way of addressing the differences in pedagogy and curriculum either side of transfer. There is some evidence that using bridging work reduces post-transfer regression in science. Bridging work is most successful when it is part of a coordinated programme that includes teachers sharing their practice through meetings, co-observation of each other's teaching. It is important that the primary teachers and secondary teachers visit each other's science lessons.

### Conclusions

All pupils want something meaningful, something that fits their values and identities. But sometimes they do not think that they can find this in science and technology studies and there is a mismatch between youth culture and the curriculum of science and technology. By using bridging units the teachers can aid pupils in their learning by improving confidence through familiarity in a new environment.