

## Choosing Science

Project Title	Choosing Science. How Year 10 Students Decide About Taking Senior Science Courses
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### Description

[↑ Top](#)

Australian and overseas data indicate that enrolments in senior science courses have been in steady decline over the last two decades. In Australia, for example, enrolments in physics, chemistry and biology fell by 32%, 26% and 36% respectively between 1992 and 2002 (DEST, 2003). Similar trends have been reported in Canada, the USA, the UK, Japan, India, Korea, Scandinavia and every country in the European Union.

Research into enrolment trends (e.g. Barnes, 1999; Ainley & Fullarton, 2001) has revealed a number of factors associated with enrolment in science subjects. More recent studies (Lindahl 2003; Lyons 2006a; 2006b) have suggested a number of avenues for further investigation, including the influence of junior school experiences, knowledge about science careers, personal motivations and attitudes to school science.

Choosing Science is a large-scale national project investigating Year 10 students' decisions about enrolling in senior science courses. This is a significant and timely study given the growing concerns about enrolment declines in science courses at senior secondary and tertiary levels.

The project is a collaboration between SiMERR and the Australian Science Teachers Association (ASTA), undertaken in two phases. In Phase 1, over 2000 secondary school members of ASTA (or associated state and territory branches) were invited to complete an online survey on their views about participation trends in their school, and their opinions about the influences on students' Year 11 enrolment decisions. Many respondents nominated their schools to participate in Phase 2 of the project, in which Year 10 students completed an online survey about their subject choices and the influences on their decisions.

Embedded within the student survey were a number of items from three other surveys: an attitudinal survey from 1980; the international Relevance of Science Education (ROSE) study, and the Maths? Why Not? survey of 2007. The findings therefore include comparisons with a similar cohort of students a generation ago, as well as with recent cohorts from 24 other countries, and a 2007 cohort of Australian students deliberating about advanced mathematics courses.

### Participants

[↑ Top](#)

Science teachers (589) and Year 10 science students (3800).

### Findings

[↑ Top](#)

Findings from the teacher survey indicate that teachers perceive the declines in science enrolments to be principally due to student characteristics, rather than those of teachers, the curriculum or science careers. In particular, teachers considered students' preferences for less academically demanding courses or those requiring less rigor than conventionally found in science courses to have contributed most to the decline. Students were also believed to prefer courses they regard as more interesting than science. Teacher responses to the survey provide directions for investigation in Phase Two of Choosing Science? (a national survey of Year 10 students), and a basis for comparing the perceptions of students and their teachers.

Data from the student survey are currently being analysed and compared with teacher responses. A full report of findings will be published in October 2008.

### Outcomes

[↑ Top](#)

#### Conference presentation

- Lyons, T. (2008). The Choosing Science? Project. Phase One: Science teachers' perceptions of the influences on

#### Page Index

[Description](#)  
[Participants](#)  
[Findings](#)  
[Outcomes](#)  
[Impact](#)  
[Related Documents](#)

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[Download Report](#)  
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## Impact

[↑ Top](#)

No assessible impact to date

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[↑ Top](#)

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[↑ Top](#)