

Summary of the PrimaryConnections Research Report Data

There is substantial evidence of the impact of Primary**Connections** in the research reports available on the Primary**Connections** website. All findings are statistically significant. The foci of the research reports are diverse. The reports cover:

- evaluation of whole school implementation (Research report 1)
- evaluation of pre-service science educator workshops (Research reports 9, 10)
- evaluation of Professional Learning Facilitator (PLF) workshops and activities (Research reports 2, 4, 5, 6, 8, 11, 12, 17)
- evaluation of curriculum leader workshops (Research reports 13, 14)
- follow up of trial teachers' activities and perceptions of Primary**Connections** (Research report 7, 16)
- trial school principals' perceptions of Primary**Connections** (Research report 3)
- student data on the outcomes of Primary**Connections** (Research report 15)
- evaluation of the Primary**Connections** Indigenous Perspectives approach (Bull, 2008) and
- evaluation of Stage 3 of the project (Dawson, 2009).

There is evidence of a positive impact on teachers. They develop more confidence and competence. Many teachers with long teaching careers who have avoided the subject are now teaching it with passion. Pre-service teachers have found it a valuable way to do a good job from the start. A survey of 106 trial teachers in 56 schools Australia-wide after 6 months found:

- 83% had high self-efficacy
- 98% said their teaching improved
- a large increase in the time spent teaching science
- a large increase in the status of science in the school and community
- the program made a positive contribution to literacy learning
- 87% of teachers believed that integrating literacy improved science learning.

There is evidence of positive impact on students and particularly Aboriginal and Torres Strait Islander students, with increased interest as well as demonstrated improvements in science knowledge, processes of science and literacy. A study of almost 1500 students comparing those in classes using Primary**Connections** to those using other teaching models found:

- almost twice as many could make a quality scientific drawing; and create a correct table of data from an investigation
- more students could identify the variables in an investigation.

The pilot study on incorporating Indigenous perspectives *Small Study – Big Success Story* showed evidence of:

- increased student engagement and participation in literacy learning;
- improved student self-esteem, confidence and attitude to learning;
- increased student participation and contribution;
- increased experiences of success by students;
- increased student attendance;
- improved student relationships with learning (enthusiasm and commitment to learning);
- improved teacher attitudes to teaching science and literacy incorporating indigenous perspectives; and
- improved relationships and development of partnerships with parent and communities.

There is evidence of impact on professional learning facilitators (PLFs) and curriculum leaders – they develop sophisticated understanding of inquiry-based approaches, and develop confidence as leaders of science in their schools. Surveys found:

- 95% of facilitators rated the professional learning resources highly
- professional learning workshops significantly increased PLFs' confidence and self-efficacy for facilitating Primary Connections workshops for teachers
- training had a large impact on the confidence of curriculum leaders as a leader in the school (increase from 3.07 to 4.08 out of a rating of 5)
- 81% of curriculum leaders said they were 'very well' or 'well' prepared for their leadership role in the school
- 83% of curriculum leaders stated that the training stimulated their learning
- 87% of curriculum leaders stated that the content of the training was relevant to their needs

In summary the key research findings are that implementation of the Primary**Connections** teaching and learning model:

- improved student learning outcomes in science
- improved student learning outcomes in the literacies of science
- improved learning outcomes for Indigenous students
- enhanced teacher self-efficacy and confidence in teaching science and literacy
- enhanced curriculum leader self-efficacy and confidence in science leadership in schools
- enhanced Professional Learning Facilitator self-efficacy and confidence in facilitating
- increased teaching time for science
- an enhanced profile for the teaching of science in Australian primary schools

For further information see the full research reports available on the website.