6. THE ROLE OF THE ROYAL SOCIETY OF NEW ZEALAND IN MAKING CONNECTIONS

Linking schools with the science and technology sectors through the CREST and the Teacher Fellowship Schemes

INTRODUCTION

Promoting science and technology education is a vital role for national academies of science and technology around the world. This emphasis reflects the importance of education to the development of a science and technology savvy workforce and to fostering a society that is scientifically and technologically literate.

In New Zealand the Royal Society of New Zealand (RSNZ) is the national academy with a key role in advancing science and technology education as part of its work in “fostering in the New Zealand community a culture that supports science and technology” (The Royal Society of New Zealand Act, 1997).

Since its inception in 1867, the emphasis of this role has been in the tertiary sector, nurturing many of New Zealand’s excellent scientists who are, or may become Fellows of the Royal Society of New Zealand.

However, by the end of the 1980’s there was an increasing push for the RSNZ to be involved in encouraging science and technology students at the primary and secondary school level as well. This was initially driven by the need to ensure a supply of scientists, but today it is the recognition that science and technology are crucial to New Zealand’s future that drives these programmes. There is a compelling need to increase the numbers of people with science, technology, engineering and mathematical backgrounds in the workforce.

The 1990’s saw significant growth in the number of programmes promoting science in the compulsory education sector. The establishment of Science Centres during the early 1990’s, actively supported by the RSNZ, is an example of this emphasis. Subsequently, there have been a wide variety of initiatives that have arisen from universities, Crown Research Institutes, marine laboratories, zoos, observatories and environmental centres that are designed to support science and/or technology education. With the increasing use of the Internet in schools there have also been a number of online programmes designed to link the science and technology sectors with schools.

Over the last 20 years this growth has been celebrated by the RSNZ and it continues to support the development of new initiatives. However, it has also meant that the RSNZ has had to identify where it can most effectively meet the
function of advancing science and technology education in a way that enhances rather than competes with new and established initiatives.

The RSNZ has three unique characteristics which point to where it should be active in school education. These are its role in celebrating excellence, its independence and its national perspective.

Celebrating excellence is a fundamental role of the RSNZ. For the school sector the RSNZ does this through the organisation and management of Realise the Dream. This is a prestigious competition run by the RSNZ for secondary school students. From this a database of excellent students has been assembled that enables the RSNZ to communicate and share information (see http://www.realisethedream.org.nz). Maintaining contact with these high achieving students can be a challenge, but enlisting social media such as Facebook has allowed these relationships to continue regardless of where in the world they are.

The independence of the RSNZ from institutional ties gives it the unique ability to work with all science and technology organisations, with the understanding that the RSNZ has the concerns of the students at the centre of any programme.

As the RSNZ is a national institution it is important that the education programmes it manages are national or at least have the ability to be rolled out nationwide.

These characteristics mean the RSNZ needs to put its energies into supporting national programmes that link teachers and students with the science and technology organisations.

Two such programmes are Creativity in Science and Technology (CREST) and the New Zealand Science, Mathematics and Technology Teacher Fellowships (Teacher Fellowships).

**CREST: CREATIVITY IN SCIENCE AND TECHNOLOGY**

Linking students with scientists and technologists is a key purpose of the CREST programme. It is a national awards programme that provides a framework to give students an authentic experience in scientific investigation or technological practice. It is a student-orientated programme with the nature and topic chosen by the student or students who are working on the investigation. These students work with a scientist or technologist who acts as a consultant/mentor ensuring the students better understand the complexity involved in their investigations.

CREST was introduced across New Zealand in 1990 with the support of Massey University and in the year 2000 became a RSNZ programme. It was based on a UK model that was regarded as an impressive and important educational enterprise (McIntyre and Woolnough, 1996).

*Research organisations and knowledge-based industries*

In New Zealand CREST began with different levels reflecting the increase in commitment of the students and the complexity of the research they were working on including individual and team Gold, Silver and Bronze Awards, and First