

# COMMUNITY PROBLEM SOLVING – CATERING FOR THE GIFTED STUDENT

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## ABSTRACT

### COMMUNITY PROBLEM SOLVING

Debbie is the Northland Technology and e-Learning facilitator for TEAM Solutions. She has taught Community Problem Solving from Yrs 1 – 8 and had New Zealand's youngest National representatives. Two of her Community Problem Solving teams have represented New Zealand at the International Finals in America and one of her teams was the World Junior Grand Champion team. From 2003 – 2005 Debbie was co-facilitator of a Talent Development Initiative working with 18 schools in Northland to introduce CmPS with particular emphasis on using authentic contexts to raise the achievement of Maori students. Eight of the teams Debbie facilitated went on to represent NZ at the International Finals and all of these teams received a first or second place. Debbie has also evaluated CmPS at the International Finals in America. She is at present developing an innovative, unique online e-learning course to train evaluators in FPS.

## 1. OUTLINE OF THE PROGRAMME

### 1.1 DESCRIPTION OF INTENDED OUTCOMES/ABSTRACT

Community Problem Solving (CmPS) is one component of the Future Problem Solving Programme. It is a powerful, comprehensive programme that provides the tools for students to make profound changes in their local communities. Students work collaboratively to identify a problem in their local community and then apply the problem solving process. CmPS aligns beautifully with the Technology curriculum as the students work in partnership with industry professionals and their various communities. The six step method includes writing a scenario, identifying an underlying problem, writing solutions (brief development); developing a plan of action (planning for practice) and, the final step being that they write and carry out an action plan (outcome development).

One Year 6 team in Kerikeri was the prime motivator behind the Far North District Council designing and building a by-pass past the Kerikeri Stone Store Basin. CmPS particularly meets the needs of Maori students as it incorporates service to the community, teamwork and leadership and values a range of talents. It takes inquiry learning to the next level, involving students in personalizing learning through authentic contexts.

This workshop looks at the process that students undertake to come up with their plans of action and how this aligns with the Technology Curriculum and showcases the work undertaken by some of New Zealand's most successful teams who have had significant impacts on their local communities.

## 2. BACKGROUND INFORMATION

Future Problem Solving is an international problem solving programme where students work together in teams of four to research set topics such as Undersea Living, Care for the Elderly, or 21st Century Marketplace. They then learn a structured, six-step problem solving process based on the work of Sydney Parnes and Alex Osborne, developed by Paul E. Torrance (deceased) of the University of Georgia. The students apply this process to a 'future scene', a one-page scenario usually set 40 - 50 years in the future, extrapolating the present day situation into that time frame. Students record their work in a booklet and send it in for evaluation.

Community Problem Solving is a component of the Future Problem Solving programme where the students work together as a team on a one year project where they identify a problem which exists within their own community; apply the appropriate parts of the FPS process to come up with a major underlying problem, a wide range of possible solutions and finally an action plan to solve their underlying problem, which they then implement. Students are required to record their work both in digital and in the form of a portfolio and to submit a six page report and addendum for evaluation.

### **3. THE GOALS OF COMMUNITY PROBLEM SOLVING**

To provide concrete experiences in real-life application of the problem solving process.

To encourage students to become a generation of caring citizens, and provide a set of values that will give meaning to all that the students accomplish.

To provide opportunities for the development of a partnership between the school and the community.

#### **3.1 PROCESS GOALS**

- To develop written and verbal communication skills.
- To develop the tools of creativity - fluency, flexibility, originality, elaboration.
- Develop critical thinking skills.
- Exercise qualities of curiosity, risk-taking, tolerance for ambiguity and imagination.
- Develop research skills.
- Develop independence in the selection of a problem to tackle.
- Develop skills of problem solving, decision making, time management and organisation.
- Learn to work cooperatively and collaboratively.
- To employ enquiry.
- To participate effectively in society.

### **4. EXAMPLES OF GOOD PRACTICE**

A group of students in America fulfilled the above goals by tackling the problems at their local waste management station where there where huge problem with the waste freezing solid in the winter. The council was unable to afford the system which had been designed for them by engineers. The students designed a solar heated system, using plastic which was intended to be a temporary measure but was so effective it was implemented as a long-term solution and saved the council \$250,000.

### **5. NEW ZEALAND SUCCESS**

New Zealand has had huge success in presenting projects of work at the International Finals of Problem Solving held in America each June. There are over 2000 students from around the world at these conferences.

Past New Zealand representatives have come from St Cuthbert's College and South Wellington Intermediate School.

### **5.1 KAITAIA INTERMEDIATE SCHOOL YR 7 - 8**

After a large amount of research, the students identified the lack of pride in the local community as their underlying problem. They worked with local businesses and the local newspaper, then designed 'Keys to Kaitaia' - pendants in the shape of the Far North. They then visited all of the local schools to set up the scheme, whereby students could earn keys for being 'caught doing good things' - for example, one student spent his holidays cleaning graffiti off the town toilets, others intervened in fights in the school playground. The team set strict criteria for the awards. The team arranged for local businesses to give discounts to the children who had been awarded the keys. They also introduced an Adult Award in conjunction with the local paper which printed the nomination forms. The team organised a dinner and worked with a local craftsman to make the wooden trophy. They then organised a committee and invited local business people to be part of it to decide who had won the award.

### **5.2 KERIKERI PRIMARY SCHOOL YR 6**

Kerikeri is one of the few areas in NZ where kiwis can be seen and heard close to quite a large residential area. Initially the students were concerned with the large number of kiwis being killed by local dogs and decided to take this on board but discovered that it was difficult to change attitudes, so broadened out their project to consider how they might raise community awareness of the need to conserve kiwis. They instigated a conservation club which had sixty people at the inaugural meeting, designed a float for their local Christmas parade, held a poster competition with the winning poster being printed on t-shirts, set up a web-site, worked with a local artist to paint a mural on the side of one of the buildings in town and made a CD which is to be available for sale to schools. The students had hoped to take a stuffed kiwi from DOC with them to America but this fell through a couple of weeks before. The students realised that they had a kiwi in a glass case in their school, so they designed a suitable travelling case, then contacted the American Embassy and made all of the arrangements themselves to transport the kiwi to Ann Arbor. This was the hit of the Community Problem Solving Fair at the Internationals!

### **5.3 OTHER SUCCESSES**

The workshop will highlight the successes of other teams who have worked more recently on projects.

## **6. ALIGNMENT WITH TECHNOLOGY**

Community Problem Solving provides the missing ingredient for many teachers catering for gifted students in technology; a possible process for students to follow. Since it is a flexible rather than proscribed process, students are able to select the parts which are appropriate to their needs at the time and this assists them to internalise the skills which they are applying.

"Students will learn best when supportive adults push them slightly beyond where they can work without assistance."

-Dr Carol Tomlinson, University of Virginia

To finish with the words of a Year 6 Community Problem Solving student:

'We have learnt to find each other's weak spots and support each other. We also use each other's strengths'.

Further Information:  
Future Problem Solving New Zealand  
<http://www.fpsnz.co.nz>

## **7. REFERENCES**

Tomlinson, Dr. Carol (2000) *Writing in Educational Leadership* The University of Virginia, USA.  
Green, D and Scahill, P (2005). *New Zealand Community Problem Solving Handbook*