ASTA Science Awareness Raising Project

AUSTRALIAN CAPITAL TERRITORY CASE STUDY:

Native Grasses of Mount Painter

The purpose of the ACT case study is to illustrate the adaptations made by the Cook Primary School and Canberra High School communities to the ASTA Science Awareness Raising Model.

The case study has been prepared from information collated from the project proposal, mid-project report, teleconferences, final project report and STA Coordinator feedback.

Background

Mount Painter is located in the Mount Painter Nature Reserve on the perimeter of the northern Canberra suburb of Cook. Local residents use the reserve as a recreation area. It was part of a former pasture area that had been slowly degraded over many years. Over the past ten years some experimental and restoration work on the vegetation of the reserve had been done by an active community group, The Friends of Mount Painter (FOMP). In the community there is a wide range of discussion about the vegetation on Mount Painter.

The project intended to utilise the knowledge of the environment and experience of local community groups and horticulturalists to guide the project and further develop the scientific knowledge of students and the wider community.

Aim of the project

The project aimed to:

- raise community awareness of science through a study of native grasses on Mount Painter
- establish a working partnership between students in two schools and local community groups
- provide experiences for participants to 'work scientifically'
- raise the awareness of the scientific expertise available in the local community.

Project Involvement

The Mount Painter project was coordinated by the Local Leader based at Cook Primary School, in co-operation with the Principal of Canberra High School. The teacher and students of Year 6 at Cook Primary School and the teacher and students of Year 9 at Canberra High School worked with local community groups.

These included:

Local interest groups – FOMP, ACT Parks and Conservation Service

Community – school board chair, parents, school tenants

Business – Jamison Centre Management, local native plant nursery, Manning Clark House

Media – Neighbourhood Watch, Local Real Estate newsletter, ACT Department of Education 'INDECS' home page, Canberra Times, SEA*ACT newsletter, FOMP newsletter 'Scribbly Gum'.

Effective communication and clearly established common understandings are key elements of working with the community. Local Leader

Doing the project

The Local Leader invited staff and parents of the two school communities to a meeting to identify local issues in the area. Following the decision to focus on the native grass propagation and regeneration on Mount Painter, letters about the project were sent to community groups inviting them to the first meeting of the Community Reference Committee (CRC).

A CRC of ten members was established and comprised parents, school staff, a FOMP representative, the Science Teachers Association (STA) Coordinator and interested local residents. At the first CRC meeting the group explored what could be achieved in the timeframe, what each member could contribute and ways of working together.

The CRC met regularly in the early planning stages of the project. As activities got under-way, the CRC were kept informed about the progress of the project via e-mail and met as necessary.

Student Activities

The Year 6 and Year 9 student worked together in small groups on project activities both in the field and at school. The range of activities included:

- collecting maps of the area and making copies for reference
- construction of topographic maps of the mountain
- preparing a summary of the history and agricultural practices of the area
- taking, developing and labelling photos of the vegetation on Mount Painter
- making journal entries
- visiting Mount Painter
- collecting grass for identification back in the classroom
- drawing/painting pictures of the area
- drying, identifying and labelling collected grass samples
- photographing the process and writing captions for the displays
- completing quadrant studies on Mount Painter
- analysing the results of the quadrant study
- graphing grass populations
- planting trees on Mount Painter with ACT rangers as tutors
- developing an action plan for future student and community activities for Mount Painter
- setting up and being present at the project display at the Jamison Centre to discuss the project with the public.

Science experiences for students from executing the project

The scientific focus of the project was to survey an area of Mount Painter and identify the various grasses as native or introduced. This involved:

- grass collection
- identifying grasses and weeds
- pressing and displaying grass samples
- a quadrant study
- graphing results of the study
- creating topographic maps
- using reference books and consulting experts for identification
- consulting with relevant members of the community for further assistance
- devising an Action Plan that made recommendations for Mount Painter in the future
- creating displays for public viewing.

School and broader community awareness raising strategies included:

- Local display – at the schools, Jamison Shopping Centre, and at the ACT Department of Education's main office – Manning Clark Offices
- Front page note on the ACT Department of Education's web site
- Reports to the school board and parents and citizen group
- School Assembly reports
- *Canberra Times* Wednesday July 31 2002
- School newsletter articles
- FOMP newsletter article
- SEA*ACT newsletter article August 2002

Project outcomes

Students and community members participating in the project became more familiar with the Mount Painter environment. They were able to differentiate between weeds, native and introduced flora species, and identify some types of grasses. Planting of some native trees was commenced.

Students experienced working and communicating with different audiences within and outside the school culture and in challenging conditions on Mount Painter in mid-winter. The modelling to younger students of how older students and adults go about their work was a valuable learning experience.

This project has contributed to the establishment of a strong bond between the primary and secondary students involved in the project. This will benefit the transition of the year 6 primary students when they move to high school in 2003. The buddy system established through this project will continue as the peer support system at Canberra High School in 2003.

Stronger links have been made between the schools and the community. The shopping centre has requested more school displays and the FOMP have included the two participating schools on their mailing list. The community membership of FOMP has increased and they use the school newsletters to advertise FOMP meetings.

Public displays of the project were set up.

Project continuation beyond the trial

The action plan prepared by students following their work on Mount Painter includes a number of recommendations that could be undertaken by students and the community in the future. It was proposed to plant grasses on Mount Painter in the area of study during terms 3 & 4 of 2002.

Students have requested a follow up visit to the mountain in the warmer weather to observe any changes to the vegetation.

Observation of the ecosystem before the project started was carried out but … the actual planting of the native grasses was not able to be done due to the winter months not being conducive for plant growth observation. ….. However this has become an ongoing project which will continue later with some planting as well as a plaque being placed in the area telling the community that the regeneration of the native grasses is being undertaken by this group. STA Coordinator

Project Costs

The main expenditure item in the ACT ASTA Science Awareness Raising Project was for teacher release, $3000. This was to enable teacher release from class work and playground duty and increased school contact with the community.

Need to have teacher release time available for teachers to meet with and plan activities with community representatives. Local Leader

In-kind support was provided by the ACT Parks and Conservation Service through donations of native plants and time and support during investigations and planting on Mount Painter. Space for the public

display was donated by the local shopping centre. Time, support and expert advice was provided to the project by staff and parents of the schools and resource people in the community. The primary school's digital camera was used to create the project's photographic record.

Was the project successful?

The whole project created a seed of interest within the community about the Mount Painter area and extended links between the primary and secondary school sector that now has the potential for follow up activities to occur between these groups more readily. Local Leader

The (involvement of the) *wider community, other than as resource people,* (was) *not as actively sought even though there was quite a deal of discussion at the early CRC meetings on what could be done. This was not due to the group intentionally shielding the work from the wider community but rather as time was a crucial factor in getting the project planned and completed within the timeframe it was difficult for the CRC to do much more.* STA Coordinator

What was learnt?

There was a lot of community interest and generosity available but due to the time constraints of the project we could not utilise all of this good will. On reflection, the dissemination of information and results about the project back to the community could have been stronger if we could have fully capitalised on this valuable resource (community interest and generosity)*.* Local Leader

Time was identified as an issue for this project. Fitting the project into an already established school program and within the organisational parameters of the school limited the potential of the project. More time to plan the integration of the project into the classroom over a term's program would have made the project more effective. The constraints of the project timeline limited community involvement and meant the initial scope of the project had to be refined.

To get around these factors the project was school driven.

It is difficult to do without an active CRC group who can take on the tasks that the teachers don't have time to do – so make sure there are numerous community members who are available and can assist in the administration and promotion. STA Coordinator

Time, enthusiasm, planning and commitment are the major elements of the project. Local Leader

This was a worthwhile exciting and engaging project BUT it needs to be embedded as a valued part of curriculum not an added extra to be squeezed into an already overcrowded curriculum. Local Leader

Community feedback for ACT case study

The Revegetation of Mount Painter project in the ACT aimed to involve the students from two schools in the revegetation with native grasses. There was already a strong FOMP group which the schools linked into, and because of this, 75% of the interviewees when contacted for the pre-project interview, had already heard about the project. Only one more person had heard about the project at the final interview (see Table 8.8). Unfortunately, only six returns of the letter survey were received, and four of these respondents were aware of the project. Based on this information, it appears that the project was not very successful at making the community aware of it, but the general notion of revegetating Mount Painter, and the FOMP group, were probably fairly widely known in the community. However, the opportunity existed for the project to increase people's understanding about the project's purpose. Table 8.10 shows that 44% of the interviewees increased their knowledge about the project, and the percentage of people who had a good or comprehensive understanding of what it was about, increased from 25% to 48% (see Table 8.9). Four of the other five projects had greater increases on this indicator.

There was no practical effect of the project in terms of interviewees increasing their understanding of the science behind the project (see Table 8.11), however there was a small increase in interviewees' confidence in being able to find out more about the science behind the issue if they wanted to (see also Table 8.11). ACT interviewees were among the most positive about the usefulness of science in solving problems (see Table 8.4), but there was a small decrease in their ideas about the importance of science to the ordinary person (see Table 8.6). Generally they believed that science was more important than other state respondents thought, it was part of many things and people were unaware they were using it in their lives. When asked how important it was that people knew something about the project issue, the average rating given by interviewees was 4.22 on a 5-point scale, the lowest compared to other projects (see Table 8.11). Common reasons given related to the importance of conserving "our own backyard" (61%, see Table 8.12), support for the proper management of Mount Painter (44%) and the need to understand more about the science background (39%). There were some changes in why interviewees thought science was taught in schools, with only 4% (down from 13%, see Table 8.5) of interviewees giving a vague response, and an increase of 9% (83% to 92%) in comprehensive responses including reference to students understanding more about their world and the processes of science.

Overall, the project was considered to have had a very small effect on the community (see Table 8.19). There is no doubt that the project had a high level of involvement of the students at both Cook Primary School and Canberra High School, and these activities were very much related to developing scientific literacy. In addition, there were other educational benefits for the students. However, it seems that by linking into an ongoing community issue already well-served by the FOMP group, the visibility of the project itself may have been affected because the focus of the students' activities paralleled those of the group.

Summary points

The Mount Painter project focused mainly on student activity undertaken by two classes. This provided participating students from both schools with worthwhile science learning experiences in a supportive learning environment. From the evidence the students collected on Mount Painter they were able to draw conclusions and put together a plan for future action.

The project was well supported by the CRC and a small number of local interest groups.

Time constraints impacted on project planning and led to a revision of the project scope and missed opportunities for involvement of the wider community. The CRC recognised the project did not actively seek to increase people's understanding about the project or the science behind it.

The 'model' and project budget provided scope for the nomination or employment of a Communication Officer. If this option had been taken up by the ACT project it may have assisted the CRC with increasing the community's awareness of science.

The ACT Science Awareness Raising Project highlighted the importance of building projects such as this into the curriculum to most effectively help students become scientifically literate. When a project is 'added on' or squeezed into an existing school/class program the full potential of the science learning is missed.

The community feedback indicated the project had a very small effect on the community. Working with the community group FOMP, who already had a profile within the community for their work on Mount Painter, may have shadowed the impact of the work of the students during this short project.

Appendix 7.1

1. SEA*ACT article August 2002
2. *Canberra Times* July 2002