

Generation Z to the rescue!

Children saving endangered species – one community at a time

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The Taronga Conservation Society Australia (TCSA) Education Team has developed a highly successful formula for engaging young people in finding their role in conservation, connecting them with their peers, their family, their community and ultimately – empowering them to help save endangered wildlife. This paper details the evolution of an community education program, outlines our successes, explains why the program is so successful and lists future plans for its continual improvement.



Taronga Conservation Society Australia (TCSA) currently supports a variety of species recovery programs for threatened species. Each program has a core focus of research, breeding, rehabilitation, release and education. Our education team was keen to investigate the current education methods that had been implemented for each threatened species. Pamphlets, signage and community information sessions were common tools used for educating the local community about the species. However, the Taronga Education team challenged how effective these methods were in 'getting the message out there'. These 'traditional education methods' seemed quite passive rather than engaging the community and developing a sense of ownership for each local species. Our education team believed that the success of these programs would be enhanced if an action plan for community education was incorporated, utilizing a very valuable resource which had not been tapped into – school children!

In 2007 the TCSA Education team developed 'SOS Education'. The Save our Species Education Program is an *in situ* conservation education program that engages school aged students to become advocates for a locally endangered species, influencing members of their own community to take action for the animal's conservation.

'SOS Education' exceeds all expectations of recovery plans and has to date proven highly successful in engaging school children to find an active role in the community and in conservation. The program design is unique in that it appeals so strongly to the attributes of generation Y and Z – connecting them with their peers, their family, their community and ultimately – empowering them to help save endangered wildlife.

The Inception of 'SOS Education'

The TCSA Education team, after having completed an evaluation project in 2006 based on the effectiveness of their teaching practices, were keen to address the 'quality versus quantity' issue – a familiar problem for many large zoos and aquariums. 'SOS Education' was designed from a desire to support the TCSA's contribution to Species Recovery Plans and in doing so, align the TCSA with schools and their local communities.

'SOS Education' goals include:

- To inspire students to engage and influence their community in raising awareness and facilitating behaviour change to help save a locally endangered species.
- To demonstrate 'best practice' in Project Based Learning, Quality Teaching and Student Voice.
- To encourage school students to join or create a volunteer Coastcare or Landcare group following the project.

The evolution of 'SOS Education'

During 2007 the Taronga Education team challenged themselves to designing an 'SOS Education' project for one of the key species supported by the TCSA – the little penguin.

The little penguin (*Eudyptula minor*) is relatively common in waters of Southern Australia, breeding mainly on offshore islands. The colony in North Sydney Harbour represents a small fraction of the New South Wales (NSW) population, but is the only known breeding colony on the mainland in NSW. It is unique and endangered (NPWS 2000).

Taronga Zoo has strongly supported the Recovery Plan for this colony in the form of: rescue, rehabilitation, breeding and release. A long term goal for the recovery team had always been to implement an education program for the local Manly community. Manly residents live right amongst the endangered population of little penguins, thus community awareness with facilitated behaviour change is an essential aspect.

School children visiting the little penguin (*Eudyptula minor*) at the zoo as a part of 'Project Penguin'.



'Project Penguin' was piloted with a local school and 90 school students, to evaluate its effectiveness of raising community awareness with our long term goal to encourage schools throughout NSW to take on a partnership with the TCSA and become active conservationists and ambassadors for wildlife within their local area / environment.

Due to the huge success of 'Project Penguin 07', we were approached by several other schools who were keen to participate, including high schools. In 2008, 'Project Penguin' targeted four local primary schools and two local high schools – a total of 550 students all working towards raising community awareness for the little penguins of Manly.

With a successful education program underway and a three year sponsorship arrangement to support it, the TCSA Education team was ready to challenge ourselves to target another threatened species – the Booroolong frog (*Litoria booroolongensis*).

The Booroolong frog (*Litoria booroolongensis*).



photo © Wikimedia

The Booroolong frog is restricted to NSW and north-eastern Victoria, predominantly along the western-flowing streams of the Great Dividing Range. It has disappeared from the Northern Tablelands and is now rare throughout most of the remainder of its range.

Most recent records are from the south-west slopes of NSW (Department of Environment and Climate Change - DECC 2008). The TCSA supports the recovery of this species by working collaboratively with the Department of Environment and Climate Change to breed, release, track and monitor the species as part of a recovery plan.

As the majority of remaining species are dwelling on private land, educating the local community is a vital component of this species survival.

An education program was designed to target the school students and residents of Tumbarumba (situated at the base of the Snowy Mountains) – creating awareness of the plight this frog species and how the local residents could aid in its survival. Perhaps due to this local community being in a rural setting, the students, parents, teachers, farmers and other community members all responded positively.

The students' learning journey

Students embark on an eight to ten week learning journey where they discover first hand from local experts, about the plight of the threatened species and how they can help. They hear from experts in the field who are involved in the Recovery Plan, are trained in skills such as bush regeneration, fauna surveys and water testing. The students are then challenged in a competition, to produce a community awareness campaign for the threatened species. Entries are showcased at an 'expo' day held at Taronga Zoo. The campaigns / projects are also displayed at several community environmental events, local shop windows, local libraries and shopping centres.

"The students learning journey was centred around the students becoming the producers of knowledge as opposed to consumers of knowledge, as they were not only expected to research information produced by others but they were involved in field work, where they produced knowledge through observation and deductive reasoning".

(L. Black, principal, Manly Village Public School)

The program is designed as a multidisciplinary approach to integrating key learning areas into a comprehensive educational model with a strong focus on practical learning – a 'hands on' approach. The program design utilises the latest 'best practice' teaching innovations such as 'Project Based Learning', 'Student Voice' and the 'Quality Teaching' framework.

Learning hands-on from an expert.



Mentoring – kids teaching kids

During 2008 we trialled an additional element to the program – 'kids teaching kids'. This new approach included high school students as mentors to the primary students, a 'peer tutoring' approach. The activities were redesigned to engage both levels of learners. Students kept reflective journals throughout the project which mapped their learning process.

Not only did this approach prove to enhance the learning and the quality of the end product but also build relationships between students, teachers and other schools.

Peer tutoring is an effective way of addressing 'middle years' (years 5-8) issues that some students experience in this age, as they risk disengaging from learning. This model of 'peer tutoring' has now been integrated into our 'SOS Education' program design.

Proven Success

Evaluation was purposely written into the design of all 'SOS Education' projects so that not only could participants reflect and review their own learning, but so that we could have a tool for continuous improvement.

The following is a selection of anecdotes from students, teachers and Zoo staff that highlight program-successes.

Us kids are in the best position to influence our friends, teachers and parents. We will be the decision makers of the future.

(C. Astill student – now volunteering for DECC)

I thought it was fabulous. The class really enjoyed learning and it was very practical learning, not just from books and the internet!

(L Meade – teacher)

Thank you again for all you've done to help our community and the Booroolong frog. It's a great partnership and I hope we work together again soon.

(J Cullen - CMA Tumbarumba Office)

The Quality Teaching framework allowed our children to learn so much. Engagement, High Expectations and Deep Knowledge were high on the list.

(Principal – J Organ)

It is amazing what can be achieved when groups of schools and the community work together in close partnership to explore authentic issues. Students' level of engagement is more profound when learning activities have real world significance.

(DG Education – Michael Coutts Trotter)

Children transformed by 'Project Penguin'.



Future scope and potential

Although 'SOS Education' is still in its infancy, it is evident that the success of these pilot projects are achieving extensive community awareness and addressing key educational outcomes.

Our future directions for 'SOS Education' include:

- Seeking sponsorship funding to expand the project to other schools within greater NSW and target other threatened species such as the regent honey eater, long nosed bandicoot, and brush tailed rock wallaby.
- Integrating an indigenous perspective into all programs.
- Using new technologies such as video conferencing to enhance learning and target schools in greater NSW and western regions and to add a global perspective.
- Implementing programs and a formula that could cross over between state to state – a 'national' program.

- Encouraging the students families to 'take action' as a follow up to the program – through the guidance of information evenings and community volunteer groups.
- Landcare funding as an overarching sponsor for 'SOS Education'.
- Focus on targeting facilitated behaviour change, Eg. join or establish a Landcare / Coastcare group or any community volunteer program directly related to saving endangered species.
- Establish regional YATZ groups for sustainability of individual programs.

Conclusion

'SOS Education' has proven to be a success in engaging young people to raise community awareness of locally threatened species. Part of this success can be attributed to the ongoing professional learning and commitment of the TCSA Education Team to keep current with the needs of our target audience (students, teachers, community and the animals)!

Understanding young people is crucial to facilitate their engagement. Zoos and aquariums are in a unique position to provide the authentic, relevant, engaging experiences that our school aged children need. This kind of learning is so important in a time where Quality Teaching and Project Based Learning are not common practice in all schools. Teachers are continually surprised by the learning potential and engagement they witness from their students during this program.

"I was surprised by the end product – the students' projects amazed me and the knowledge that every student had by the end of the project was fantastic"

(J. Organ, Principal)

We endeavor to model this style of teaching and engagement to classroom teachers in the hope that teachers also see the effectiveness of addressing their students' needs.

Little penguin (*Eudyptula minor*).



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Project based learning (PBL)

This style of learning provides complex tasks based on challenging questions or problems that involve the students' problem solving, decision making, investigative skills and reflection that include teacher facilitation but not direction. They take a problem and apply it to a real life situation (Wikipedia 2009).

Students respond so well to PBL because the projects are 'realistic, not school-like'. This gives the students the feeling of authenticity that they prefer with their learning (Thomas 2000). It also caters for all abilities, talents and learning styles of the students.

The Director General NSW Department of Education describes PBL as 'best practice' and noted after observing our program that the 'level of engagement is more profound when the learning activities have real world significance'.

Family Learning

Haggart (2000) describes family learning as: 'what people outside the family do to enable and facilitate the learning that goes on in families'.

Buffton (1999) defines family learning as that which: 'supports efforts to raise children's achievement levels, raises expectations and aspirations of both children and adults, promotes active citizenship and, as the family group is the microcosm of the community, is community capacity building at its best'.

Student Voice

Student Voice is a practice largely overlooked by teachers when they are creating new programs or collecting evaluations for program improvement. It is based on the knowledge that 'students know what they need for their learning, they just need a framework to articulate it' (Groundwater-Smith 2006).

Quality Teaching

The Australian Government Quality Teaching model is essentially a model of teaching based on how pedagogy can improve students' learning outcomes (Gore and Ladwig 2003).

The model describes three dimensions and 27 elements within. It is advised to choose a cluster of elements from the dimensions to focus on, rather than attempt to fit all into one lesson (J. Gore, pers. comm., 2007). In fact, it could indeed be detrimental to be emphasizing a particular element when the lesson is best suited to others.

It 'assumes that teachers who adopt the pedagogy will achieve better student outcomes' (Gore and Ladwig 2003).