The Journal of the Victorian Association for Environmental Education

Eingana

TEACHER EDUCATION & PROFESSIONAL DEVELOPMENT

VAEE
VICTORIAN ASSOCIATION FOR ENVIRONMENTAL EDUCATION

- Mainstreaming Sustainability in Teacher Education in Australia
- Promoting Excellence in Environmental and Sustainability Education
- Effective Professional Development for Facilitators of Sustainability
- The Ability to Imagine: Educating for Sustainability
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Volume 30 Number 3 December 2007 $12.00 incl. GST

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The Victorian Association for Environmental Education (VAEE) is a not-for-profit membership driven incorporated association. Providing leadership and a voice for the environmental education sector within Victoria, the VAEE offers professional support to, and promotes the development of, environmental education and sustainable behaviour change in both the formal education and community settings.

Eingana is the journal of the Victorian Association of Environmental Education Inc. and is published three times a year. Subscription to ***Eingana*** is included in organisational and individual membership of VAEE. The price of a single copy is $15.

VAEE membership is open to all teachers, students, community educators and all individuals and groups interested and committed to environmental and sustainability education. Please contact the VAEE about becoming a member.

Joint membership for the Australian Association for Environmental Education (AAEE) and VAEE is available and provides an essential resource for those interested in Environmental Education to come together, network, share their knowledge and expertise, and represent the sector at a national level. Please contact the VAEE if you are interested in availing of joint membership.

Volume 30, Number 3, December 2007

For reasons of space and clarity, the Editorial Board reserves the right to edit articles submitted prior to publication.

The views expressed in each of the articles are those of the authors and may not necessarily be shared by the VAEE.

Acknowledgement: The Editorial Board wishes to thank all those who have contributed articles, illustrations and photographs for this issue of ***Eingana***.

Note to contributors: Teachers, students and community educators are encouraged to contribute to future issues of ***Eingana***, particularly to the sections called Reflective Practice, and New Programs and Resources. As you will see from this issue, the length and style of the articles would vary depending on the nature of the topics. Please contact the Editorial Board via the provided VAEE contact details if you are interested in contributing to ***Eingana***.

Note to potential advertisers: VAEE accepts advertisements for inclusion in ***Eingana*** that either support or would be of interest to environmental and sustainability educators. Potential advertisers are requested to contact the VAEE Office to discuss advertising opportunities and rates. Deadlines for advertisements are two weeks before the publication date.

Deadline for the future issues are as follows:
15 March 2008 - May 2008 release date (Sustainable Schools)
15 July 2008 - August 2008 release date (Gardens and Playgrounds)
15 October 2008 – December 2008 release date (25th Anniversary Issue)

This issue of ***Eingana*** is an on-line magazine.

Cover Photo: Maria James and Paul Dullard during one of the professional development activities conducted as part of Toolbox for Environmental Change in 2007. Photo by Jess Baillie (Greening Australia).

Cover design: William Gallagher

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Eingana is the great earth mother. She is fertility itself.
She is the source of all life forms, of all being.
Djauan Tribe, NT

Contributing a spark for on-going professional development and learning

Welcome to the first Eingana e-Journal!

The VAEE has been discussing the idea of an electronic version of the journal for a number of years now. We have decided to take the plunge given the massive support the idea had based on the membership survey we conducted early in 2007.

We also decided to reduce the technical requirements and not bother with log-in names and password protected sites but instead make it open for all to access.

Therefore this, issue of Eingana is open for you to share. So feel free to pass on the web link to this maiden electronic Eingana to other teachers, community educators, and local government persons, or even to your friends and neighbours. After all, educating for sustainability is everyone's responsibility.

If we all share in the responsibility to educate others for sustainability, it is important for us to re-think what we mean by education. I have been arguing that we need to expand the notion of education and learning beyond something that occurs within the four walls of the classroom or within the start and end of a structured workshop experience to something that potentially occurs as part of our daily lives. However, such a wider and holistic view of education for sustainability makes it essential that we transform the existing institutions and channels of education and learning, and correspondingly provide the necessary skills and knowledge required by the individuals who make up these institutions. This provision of skills and knowledge is often referred to as professional development – the theme of this issue of Eingana.

* * *

The VAEE conference was revived in 2007 as an opportunity for individuals and institutions involved in the business of facilitating learning based change for sustainability to share their experiences of good practice. We have invited some of the presenters to document their sessions and share them with you. In addition, we have received other contributions from individuals who have conducted similar presentations at the Australian Association of Environmental Education (AAEE) conference, the Sustainable Living Festival and the Greening Australia Toolbox series.

Amy Cutter-McKenzie writes that while there are currently no professional teacher standards in environmental education, the argument for standards, aside from serving as guides for excellence, are that it can provide teachers with a guide to help them plan and design their own professional development programs.

Jo-Anne Fereira, Lisa Ryan and Daniella Tilbury follow-up this argument with an article that examines how teachers are currently prepared to implement the whole school approaches to sustainability promoted by AuSSI and NEES. They describe three approaches for mainstreaming sustainability in teacher education, and identify that the most ideal approach is one that views change systemically and takes into consideration the broad and multi-faceted aspects of education including but not limited to curriculum, practitioner and institutional change.

Colin Hocking expands the notions of the sustainability educator to more than just the school teacher. He observed that current sustainability change programs are based on education models that emphasise information dissemination and awareness–raising as the key to behaviour change. However, he argues that learning based change is influenced as much by emotions, relationships and values, and therefore involves not just learning to teach but learning to facilitate effectively – a skill that can be learned and developed.

It is worth noting that the resources, organisations and programs featured in this issue are supportive of the kind of education that needs to be embraced by teachers and facilitators of sustainability education programs, as identified by the three lead articles.

Ollie's Island tackles the issues of consumption and believes that learning about sustainable consumption needs to acknowledge the active role of the learner in shaping this learning process, and builds on a pedagogy that is founded on critical thinking and inquiry based learning. This results in active, self-directed learners who are also ethically responsible citizens.

Stephanie Alexander's Kitchen Garden Foundation is another organisation that delivers locally contextualised education through developing healthier eating habits amongst the next generation of Australians by engaging them in growing, harvesting, preparing and sharing delicious and healthy food in primary school.

The same principles of good educational practice is evident from the experience of *Get Green,* a program of Village Green a private organisation that specialises in finding sustainable solutions for small and medium sizes enterprises in Australia. *Get Green* worked with five schools in Manningham and shared the outcomes of

their evaluation of utilising a holistic approach to sustainability education in schools to improve energy, water, transport, waste and chemical use.

Sally Jensen argues that any pedagogy for sustainability needs to develop what she calls "the muscles for imagination". She uses the example of how stories can teach effectively because they weave together one's cultural history, education and sustainability, instead of viewing them as separate subject areas for study. She suggests some exercises to help develop students' imagination, and argues that this should not be limited to students of the creative arts.

At the Williamstown High School, three Middle Years teachers have collaborated to design and develop an inquiry-based approach to learning about how we can respond to the Earth's possible futures. Called *Living in 2030: An Experiment in Survival*, the teachers describe it as a call to arms – where they arm their students with skills and knowledge to help them prepare for these future scenarios.

Anthony Magelsdorf takes us through the steps involved in developing Sustainability Action Projects (SAPs) which is a central process employed in the implementation of the Australian Sustainable Schools Initiative Victoria (AuSSI Vic). But aside from steps, Anthony identifies the core principles that inform the development of whole-school approaches to sustainability curricula.

Sustainability Victoria's presentation at the recent VAEE conference emphasised their role in providing leadership in sustainability education, through policy development but also through supporting effective sustainability education practice. SV briefly describes a new opportunity for schools and communities, called *Solar in Schools,* to secure funding to install grid-connected solar photovoltaic power systems, set-up energy monitoring systems and develop educational materials on renewable energy. The funding is linked to innovative educational approaches for both schools and communities to learn more about renewable energy, in particular solar energy.

We hope that through this issue of Eingana we can contribute to the conversations about learning and professional development as an on-going process that happens daily. There are many opportunities when such conversations take place during the year; we hope that you find yourselves engaged in such conversations – who knows, by passing on the link to this electronic version of Eingana, you may just help spark such conversations.

Jose Roberto (Robbie) Guevara
Editor, Eingana

A Move to Teacher Standards: Promoting Excellence in Environmental and Sustainability Education

by
Amy Cutter-Mackenzie & Barbara Clarke, *Faculty of Education, Monash University*
Phil Smith, *Australian Association for Environmental Education*
Jeff Su, *Gould Group*

Abstract
For the past decade professional teaching associations have been progressively developing teacher and/or teaching standards[1] and associated professional learning and assessment models in the key discipline areas. The underlying ethos of this approach is to capture the depth and range of accomplished educators' teaching. Despite the increasing work on teacher standards in Australia, currently there are no professional teacher standards in environmental education (Cutter-Mackenzie, 2005). Up until the implementation of the Waste Wise and Sustainable Schools initiatives there was little or no recognition of environmental / sustainability education practice in Australia.

To these ends, this article is about the recent developments in environmental education concerning the advance of professional teaching standards and learning in Australia. The paper is based upon a pilot project being driven and funded by Monash University, the Australian Association for Environmental Education and the Gould Group to develop and implement appropriate professional teacher standards and professional learning models with and for teachers.

A Move to Standards

In supporting teachers' professional learning, from 1999 - 2001 Commonwealth-funded collaborative research was undertaken by the national Mathematics, Science and English/Literacy subject associations in partnership with academics in the Faculty of Education at Monash University. The focus was on the formulation of subject-specific professional standards for Australian teachers. These three projects are of particular national significance, attracting attention in a number of forums. This work parallels similar initiatives in other countries, most notably the National Board for Professional Teaching Standards (NBPTS) in the United States, which has developed a powerful model of subject-specific professional standards and assessments for the purposes of certifying 'accomplished' teachers in a range of subject areas (Ingvarson, 1998; Zemelman, Daniels, & Hyde, 1998).

There were two key motivators for the Australian Association of Mathematics Teachers (AAMT) involvement in the process of developing standards for teachers of mathematics and an associated assessment process (Clarke, 2005). The first was that it would develop the profession through the potential to:

- improve the status of teachers;
- increase knowledge of the work teachers do;
- articulate what it means to be an excellent teacher of mathematics;
- build a professional language to support reflection and discussion; and
- provide a "benchmark" for which to aspire.

The second argument relates to the individual perspective and teacher professional learning. Ingvarson (1998) claimed that in identifying standards of excellence, teachers would be able to design their own professional development to attain them. Morony (1999) regarded this kind of arrangement of professional development to be an essential characteristic of true "professional practice", quite distinct from approaches focusing on "implementation of new policies". Professional standards can help develop individual professionals through:

- providing a "road map" to identify and plan personal/team professional development needs;
- amplifying the importance of teachers' professional knowledge;
- providing a framework to evaluate practice; and
- endorsing and valuing the work of accomplished teachers of mathematics.

While some significant claims have been made about the power of standards and their assessment, there is growing evidence of the value of standards for teacher professional learning. Research into the development and use of teacher standards continues to attract national funding. Monash staff members have just completed a linkage project that explores portfolio development using the AAMT standards and the Australian Association for the Teaching of English (AATE) standards and there is currently a Linkage project to develop standards in History education. Despite the increasing work on teacher standards in Australia, currently there are no teacher

standards in environmental education (Cutter-Mackenzie & Smith, 2005). Other than general international, national and state environmental education statements and policies, only one policy document has been produced which contains environmental education standards *(termed competencies)* for Australian (specifically Queensland) teachers (Board of Teacher Registration, 1993). While the initiative was well received by environmental educators, the competencies were too broad to implement and/or impact environmental education practices in primary and secondary schools (Cutter & Smith, 2001a, 2001b; Spork, 1992).

In order to support the shift from policy to practice in environmental education, Monash University, the Australian Association for Environmental Education and the Gould Group are developing appropriate teacher standards and a linked professional learning and assessment model with and for the profession of teachers.

The overall research project has three main aims:

- to develop, in extensive consultation with the profession of teachers and environmental educators, environmental education professional teacher standards for accomplished primary and secondary school teachers across Australia;
- to develop appropriate assessment and accreditation procedures for accomplished teachers in environmental education. This will be leveraged off best practice environmental education schools, including Waste Wise Schools; and
- to develop, implement, evaluate, report on and make accessible professional learning profiles based on these standards for accomplished Australian teachers.

Why Standards in Environmental Education?

This is a highly significant and innovative project for environmental education. It will ultimately inform better practice in environmental education and thereby work towards building a sustainable Australia.

Recognising teachers' excellence in environmental education will provide an incentive for both teachers and schools alike to initiate, improve and/or continue their environmental education practices. The development and recognition of excellent teachers should be one of the urgent priorities for schools, and the most appropriate professional learning towards that excellence is that which would occur within a framework of clear and public professional teacher standards. This would not just apply to schools either, and one would expect that employer groups and educational systems that provide funding for professional learning would be equally interested and assisted by consensus views on excellence. Equally those individuals, teachers' groups, professional bodies such as the Australian Association for Environmental Education and the Gould Group that provide professional learning for teachers would value having access to the outcomes of such a project as this.

The problem is that we have relatively few consensual ideas in this country about high levels of environmental education teaching competence, and even fewer about how to certify them. While there is certainly a growing body of research about this, the wisdom we seek is from the Australian primary and secondary teaching profession itself. There has been no previous attempt to research and develop professional standards and learning models for teaching environmental education in this country. Indeed, this research and initiative will have both national and international significance.

Concluding Comments

In 1998 the Australian Senate Employment, Education and Training References Committee released a report on an inquiry into the status of teaching (A Class Act). In commenting on the issue of standards of professional teaching practice, "the Committee insists that establishing...standards of professional teaching practice is possible, unavoidable and absolutely necessary (p.16). This reflects the growing commitment to 'standards' in teaching in many quarters in Australia and elsewhere. The Committee also made a clear statement on its position in relation to the location of responsibility for developing professional teaching standards: "It is an essential characteristic of standards of professional practice...that (the standards) are determined by the profession itself" (p.17). The last sentiment encapsulates the ethos of this project; developing standards with and for the profession of environmental educators.

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Notation

Data collection for this project will commence in Term 1, 2008. Updates about the project will be circulated via VAEE, AAEE, Gould Group and Monash University. If you are interested in being involved in the project please contact the chief investigator, Dr AmyCutter-Mackenzie (Amy.CutterMackenzie@Education.Monash.edu.au).

Amy Cutter-Mackenzie is a former primary school teacher. She moved into academia after completing her PhD in 2003. Dr Cutter-Mackenzie embraces a leadership role in primary pedagogy and curriculum units, and is becoming increasingly more involved in the Bachelor of Sport, Outdoor and Recreation. She actively works in partnership with key stakeholders in developing, implementing and researching environmental and sustainability education programs particularly in early childhood, school, tertiary and community settings.

Barbara Clarke is an associate professor in the Faculty of Education at Monash University. Barbara has significant research experience in the teacher standards area, having been a investigator in the AAMT standards development project as well as two subsequent standards related projects, one which focused on assessing teachers using the AAMT and AATE standards and the second that explored professional learning models using the standards.

Phil Smith is the President of the Australian Association for Environmental Education. Phil is an environmental education consultant specialising in the development, delivery and evaluation of environmental education programs.

Jeff Su is the business development manager of the Gould Group. Jeff has extensive experience in environmental education and environmental science both in Australia and the USA.

Endnotes

1 Many terms are used in the literature and policy documentation concerning standards, including professional teacher standards and teaching standards. These terms hold different meanings. According Sachs (2005, pg.2), professional teacher standards are concerned with measuring teacher performance, while teaching standards are about improving teaching. For the purposes of this paper and the larger project, we utilise the term 'professional teacher standards' to encapsulate both definitions.

Models for Change: Mainstreaming Sustainability in Teacher Education in Australia

by
Jo-Anne Ferreira, *Griffith University,* **Lisa Ryan**, *University of the Sunshine Coast and* **Daniella Tilbury**, *Macquarie University*

Abstract
How do we mainstream sustainability in teacher education? This paper reports on a research study that examined the understanding of change that underpins various initiatives seeking to mainstream sustainability in teacher education, both in Australia and internationally. We identified three main models, and argue that the most complex model, the Whole-of-System model, offers the greatest change of success in efforts to mainstream sustainability in teacher education in Australia.

Recognising the vital role that teacher education plays in achieving changes in schools (UNESCO-UNEP 1990; Hopkins 2001; UNESCO 1997; UNESCO 2004; UNESCO 2005), this paper reports on a research project undertaken by the Australian Research Institute in Education for Sustainability (ARIES) that examined various efforts to mainstream Environmental Education and Education for Sustainability in teacher education, in Australia and internationally (Ferreira, Ryan and Tilbury 2006). A range of initiatives and the approaches to change or 'models' underlying these initiatives were examined in order to understand which approach or model may prove the most successful in mainstreaming Education for Sustainability in pre-service teacher education in Australia.

At present, Environmental Education and Education for Sustainability are not widespread in Australian schools (Tilbury, Coleman and Garlick 2005; Linke 1980; Gough 1997; Henderson and Tilbury 2003). There are some efforts to remedy this situation, however. For example, the Australian Government's *National Environmental Education Statement for Australian Schools* (National EE Statement) (Curriculum Corporation 2005) and the Australian Sustainable Schools Initiative (AuSSI) (Department of Environment and Water Resources) are making progress in this area. However, the uptake of such initiatives and ideas is dependent on teachers who are both knowledgeable about sustainability and have the capacity to implement the whole-school approaches to sustainability promoted by AuSSI and the National EE Statement. Unfortunately, pre-service teacher education in Australia is failing to prepare teachers well for this task (Tilbury, Coleman and Garlick 2005; Spork 1992; Gough 1997; Greenall 1981; Cutter-Mackenzie and Tilbury 2002; Gough 2004). This is not surprising given that Education for Sustainability does not feature as a mandatory component in teacher education programs in Australia (Tilbury, Coleman and Garlick 2005). In their initial training, teachers may learn about sustainability in Science, Geography, or Studies of Society and Environment curriculum components of their program. However, sustainability seldom, if ever, features in educational leadership, management, psychology or sociology classes thereby limiting the potential for whole-school approaches to be taken up in schools. Our study recognised the need to address this and to find an effective process through which to mainstream Education for Sustainability within pre-service teacher education programs in Australia, across the whole teacher education system.

...sustainability seldom, if ever, features in educational leadership, management, psychology or sociology classes thereby limiting the potential for whole-school approaches...

Our research study thus set out to review Environmental Education and Education for Sustainability initiatives targeted at the pre-service teacher education level. We sought to identify the approaches to change that underpin such initiatives and to review their effectiveness in achieving change within the pre-service teacher education sector. Our goal was not to review good practice but rather to identify strategies that could lead to changes within pre-service teacher education. Our study examined over twenty key initiatives, both nationally and internationally, and identified three models or approaches to the professional development of pre-service teachers underpinning these initiatives. These were what we termed the Collaborative Resource Development and Adaptation model, the Action Research model and the Whole-of-System model.

The Collaborative Resource Development and Adaptation Model
The Collaborative Resource Development and Adaptation model was the most frequently used model in all the initiatives we considered for review. Indeed, the development of quality resources and training in their use seems to be the

default model for those seeking to influence the professional development of pre-service teacher trainees and the teacher educators who teach them not only within the Environmental Education profession but also more generally. This could be due to the tangible outcomes such as kits or resources offered by this model and the fact that it may be able to target a wide audience. We found that the collaborative resource development and adaptation model generally seeks to bring about change at the level of curriculum by developing resources that may assist in re-orienting the content and processes of curriculum towards sustainability. Environmental educators, however, often innovated upon the basic model by engaging the potential users collaboratively in the development of the resource and by ensuring the easy adaptation of the resource to suit other contexts, as Figure 1 below illustrates.

We found that the success of this model in effecting widespread curriculum change is largely dependent on the potential users firstly being aware of the materials and secondly having an interest in engaging with the material. In addition, we found that if possibilities exist for engaging stakeholders in the collaborative development of the resource, be they internal to an institution, or across multiple institutions, the impact of the program is likely to increase as they have greater ownership of and buy-in to the project. A limitation of the Collaborative Resource Development and Adaptation model, however, is that it seeks to bring about change at the level of individual programs by adding new content or improving pedagogy. In seeking to work within

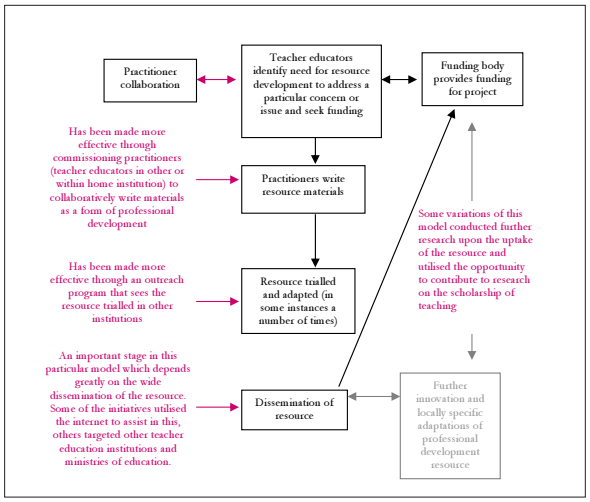

Figure 1: Collaborative Resource Development and Adaptation model

and through current systems and structures and isolated individuals, this model does not seek to bring about system wide change.

The Action Research Model

The second model we identified was the Action Research model. This model seeks to bring about change by engaging directly and 'deeply' with those practitioners who have control over the content and teaching processes of particular courses. It seeks change though linking curriculum innovation, professional development and innovative pedagogy. The initiatives we reviewed targeted teacher educators who would be able to act as agents of change within their respective teacher education institutions. One of the aims of the reviewed initiatives was to build capacity for these teacher educators to be leaders in their institutions in advancing the sustainability agenda.

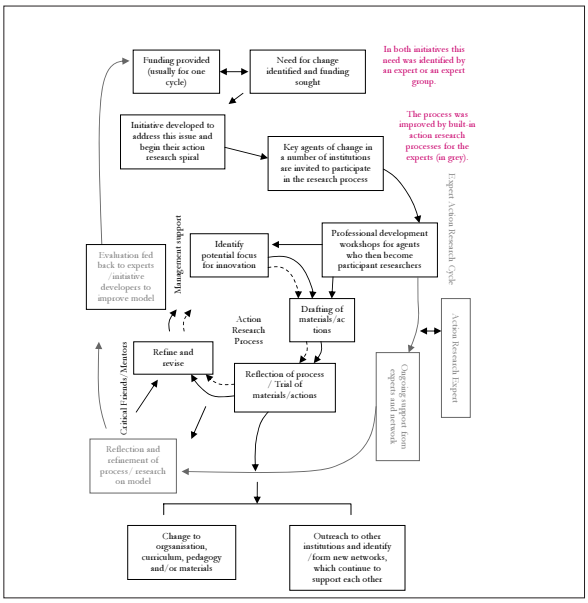

Figure 2: Action Research model

A positive feature of this model is that it engages with participants as researchers. Participants can thus tailor the focus of the initiative to suit their needs, thereby retaining a high level of control over the processes. While the model relies on someone to initiate it, it is not expert-led. Rather, the 'experts' sit to the side of the model, as illustrated in Figure 2 below. This model also engages these 'experts' in an action research process, allowing for them to be continually engaging with and reflecting on how effectively the model is working for participants- allowing for evaluation to be embedded as a core component of the model. The evaluation and reflection that occurs through the action research process feeds back into the process, thus ensuring immediate and ongoing improvement. Such ongoing and iterative cycles of evaluation and reflection were unique to the action research model and are, we believe, important in ensuring that learning from the project meaningfully informs further iterations. A limitation of the Action Research model is that it is very time intensive, requiring an ongoing commitment from participants. While this model seeks to embed change within a system, in practical terms it tends to do this only within one or two institutions, not within and across the whole teacher education system.

The Whole-of-System Model

There are very few examples of what we call the Whole-of-System model. This model views change as occurring within a particular context and thus takes a broad and multifaceted approach to engaging change. The approach is complex and requires a clear understanding of and engagement with all stakeholders within the teacher education context. This includes working at the interface of every contextual layer of teacher education from student and practicum school principals to program directors and external agencies, so that the organisational culture and processes of each can be changed. The model is unique in that it seeks to bring about change from the bottom-up and the top-down simultaneously, as Figure 3 illustrates.

While the flexibility of this model is a positive feature because it does not prescribe solutions but instead enables contextually specific strategies to be developed, it can also be problematic if it results in an ad-hoc engagement that sees some areas receiving less attention than others. A more systematic approach would ensure that all areas, where change is being attempted, are equally dealt with in a coherent and consistent fashion. Another limitation of this model is that it relies on a broad range of equally committed people for it to work. However, this broad engagement and commitment is also the reason for its success. The Whole-of-System model is also limited in that it is difficult to co-ordinate the range of changes occurring and thus to monitor success. Although there are a variety of challenges in implementing the Whole-of-System model, if these can be overcome, significant benefits can result. Because the model looks beyond curriculum, practitioner and institutional change to focus on systems, initiatives based on this model reported greater degrees of success in achieving widespread change, than did the Collaborative Resource Development and Adaptation, and the Action Research models.

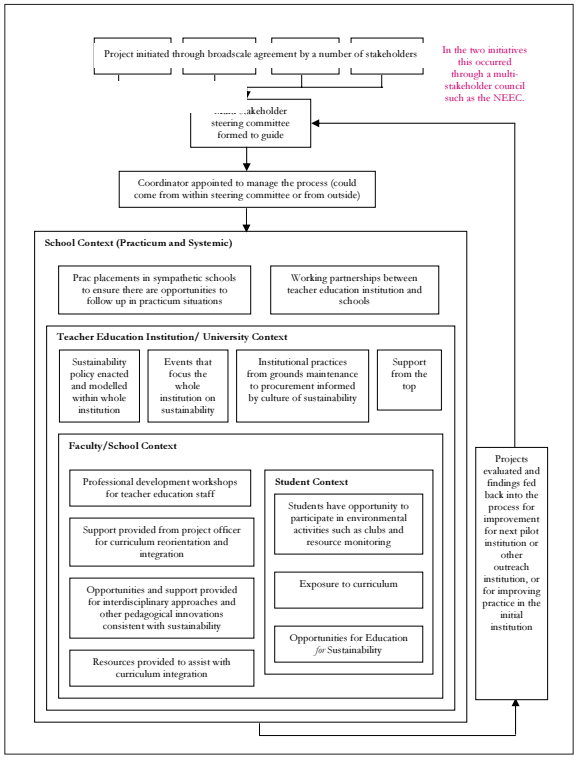

Figure 3: Whole-of-System model

...the model looks beyond curriculum, practitioner and institutional change to focus on systems...

Conclusion

We concluded our study by recommending an approach to the professional development of pre-service teachers that combines the best features of the three models. Our 'Whole of Teacher Education System' model seeks to simultaneously engage all stakeholders within a system, including teacher education accreditation agencies, policy makers, planners and practitioners, in the process of change to ensure that there is compatibility in purpose and vision, and thus less resistance to any proposed change. In addition, the recommended model utilises iterative action research cycles in order to strengthen and embed change. We believe that such an approach will help to target change at a number of levels in the teacher education system; will involve the agents of change from each of the key stakeholder groups in a process that enables them to see the relevance of sustainability to their work in teacher education; and will create multi-dimensional change within and across a teacher education system. We argue that this is important if we are to obtain a commitment to, and ownership of, any innovation across a system, and, in this way, to mainstream Education for Sustainability in teacher education in Australia.

A full copy of the research report is available online from www.aries.mq.edu.au

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The Guide Beside Project – Comprehensive and Effective Professional Development for Facilitators of Sustainability

by
Dr Colin Hocking , *Institute for Sustainability and Innovation and Victoria University and Vice-President (Community Programs),VAEE.*

"Be a Guide Beside, Rather Than a Sage on Stage"

In 2005 a new project was started, through the Victorian Association for Environmental Education (VAEE) to investigate the professional development (PD) needs of those who facilitate sustainability programs and projects. The GB is framed as a new and evolving approach to professional development. GB is for those who train, lead, educate or in other ways use learning and change programs to achieve environmental sustainability outcomes. The prime aim of the project has been to assist experienced and not so experienced facilitators to acquire and further develop the best available practices. The project grew jointly out of the Sustainability Education Round Tables, and the framing of the Victorian Draft Learning to Live Sustainably Strategy. The Guide Beside project, originally titled 'Professional Development for Sustainability Educators', was funded by the Department of Sustainability and Environment and is reported on in more detail elsewhere (2006).

The project was launched through a series of forums and discussion groups, aimed at asking "What do you most need assistance with, to be effective in your work as facilitators of sustainability programs?" It quickly became apparent that what sustainability facilitators were currently receiving was out of balance with what was needed: while there was a range of information-based PD, across sectors, and a more limited number of do-as-I-say training sessions, what was missing was the personal and social engagement elements of facilitation for sustainability, and no real way of getting practical learning to foster these types of skills. Coincidentally, in parallel with this growing need has been the relatively recent rise of interest in sustainability programs by social research (including action research), and what this tells us about how people learn and change. It was clear from the start of the project that much of contemporary sustainability change programs had assumed the primacy of information delivery as a key to getting change, which was seriously out of step with both research into, and practical experience of, learning based change, or LBC (referred to by various terms and discipline definitions such as behaviour change, social marketing, community engagement, community advocacy campaigning, etc).

The need to re-balance the key elements of professional development and program effectiveness were summarised in the notion of moving from more transmissive to more transformative approaches (See Figure 1).

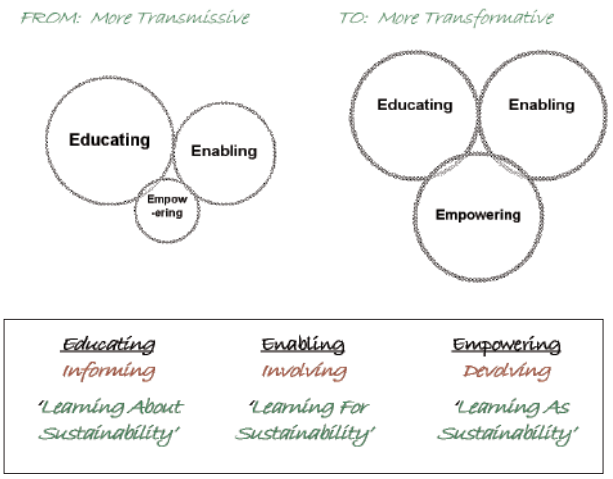

Figure 1: From Transmissive to Transformative Approach to Learning

Four Key Focus Areas for Professional Development

As the GB project progressed, it became apparent also that key content/activity areas were missing or under-resourced in PD programs. These were eventually grouped into four broad areas:

- Effective **Facilitation** for Learning Based Change (LBC)
- **Strategic Planning** – includes clearly identifying outcomes and actionable objectives
- **Evaluation** and ways of acting on evaluation (Evolution)
- Building **Partnerships & Collaborations**

Note: The ongoing need for PD under these broad themes was recently confirmed again by the Sustainability Education RoundTable, in Melbourne in November 2007, involving over 80 sustainability facilitators.

In the second stage of the GB project these four key areas of focus were turned into specific professional development workshops (see below).

Professional AND Personal

Also identified during the GB project was the high level importance of going about these activities in ways that socially and emotionally, as well as cognitively and technically, support the needs of the groups who come together to take sustainability action. To develop this notion, a special working group was set up within the GB project, drawn from those with an interest in this aspect of facilitating and capacity building. The special working group assisted in organising and running a specific workshop, in July 2006, on 'How to Foster Effective Relationships for Sustainability – With Ourselves, Others and Our Environment." A key outcome of this workshop was that, while sustainability facilitators have a range of ways in which they maintain their personal well-

being, having practices that are shared with others is a key to being able to maintain energy and effectiveness, in working with others towards sustainability goals. Out of this workshop emerged several important frameworks that were instrumental in helping set the ways in which the GB approaches Professional Development. One of these frameworks, the importance of positive collaboration, maps strongly with the notion of Communities of Practice.

Communities of Practice as a Framework

The GB project revealed the multiple benefits of framing learning and change for sustainability around the notions embodied in Communities of Practice (CoP). These include:

- Sharing experiences & strategies for learning & action
- Assistance in adapting or transforming others' experiences
- Sharing new ideas, technologies and emerging policies and regulations
- Providing affective (emotional) support and a sense of renewal, of 'belonging'
- Networking, including chance opportunistic meetings & new partnerships

Approaches that locate learning and change for sustainability in CoPs (or their equivalent) have also been identified as being beneficial for LBC at the levels of the Victorian State Government (DSE 2006), the national level (Tilbury & Cook 2005) and internationally (Tilbury 2001).

The GB project also clarified that, to gain maximum benefit from the CoP approach, careful planning, scheduling and follow-up needs to occur, in and across each of the four broad themes identified above. GB approaches to building CoPs mean a great deal more than 'getting together to swap ideas and talk through scenarios.' While this approach may have some uses, CoPs can be made much more efficient and effective if they are properly facilitated, if the objectives of meeting are clearly identified in advance, by participants and with input from other stakeholders, and if at least some of the outcomes can be directly acted on. There is an abundance of literature on CoPs; some of this is accessible through the website www.ewenger.com/theory/ .

Learning and Change Frameworks

Guide Beside approaches are imbued with the most up to date behaviour change research and practice (e.g. Robinson 2005, Tribbia 2007, McKenzie-Mohr 2000).

GB approaches have incorporated a range of views and models for learning based change, and assessed these against the experiences of those in the field. That is, those at the front line, doing the actual facilitation for learning and change. GB approaches reflect what works best for these facilitators, and the communities and organisations they are engaged in, for change.

GB approaches also take into account the current position of sustainability facilitators within the wider society – for example, facilitators are often required by their organisations and/or communities to at once set and kick goals, to achieve the next step for sustainability, and at the same time help shift the goal-posts for these organisations and/or communities, but in ways that are not so challenging or out of step as to be counter-productive. Facilitators are required to be both designers and implementers of learning based change, and also change agents within their organisations.

Consistently, across learning and change research, models and theories, regardless of their discipline base, there is recognition that well presented information and well-argued logic are not sufficient to get the majority of people to make changes towards sustainability –see for example Darnton & others (2006) and Chess & Johnson (2007).

What leads to change is at least as much affected by emotions, relationships and values, as by awareness, understanding and opportunity for learning and for triggering action. What is also clear is that these elements, however framed within any specific model for change, are interactive with the other key elements.

Guide Beside approaches give overt recognition to the need for a combination of strategies and approaches to achieve change in individuals and capacity building across communities and organisations. This includes recognition that change is driven as much by social interaction, encouragement, relationships of trust and public commitment within meaningful communities, as it is by individual intent and inventiveness.

Predisposing = Aware & Knowing
Enabling = Capable & Acceptable
Triggering = Trusted Support, Opportunities
Satisfying = Achieving Practical Value
Identity = Personal & Social
(& interactions between these)

A central feature of GB approaches is that frameworks

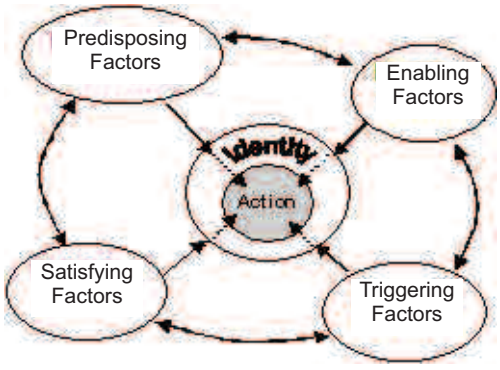

Figure 2: A simplified generic model for Learning and Change used as an entry point for PD participant engagement -adapted from Robinson & Glanznig (2003)

for learning and change are interactive systems, rather than linear, mechanistic, 'silver bullets' or 'set recipes.' For example, when putting into practice the learning and change approaches indicated in Figure 2, in a community

or organisation, Predisposing Factors are likely to be necessary early in any strategic plan. However, in practice, awareness and knowledge often build over time as potential participants become more engaged. In addition, some early entry participants might in themselves be the conduits for raising awareness and providing knowledge to others. This interactive potential can be built into a capacity building plan for a program or project, especially if attention is paid to providing these second level facilitators with understanding and experience in how to best engage with new entry participants.

This type of systemic approach is well served by putting effort into building CoPs, within which each individual might be at a different, complex and individual place within the systemic learning and change framework. A parallel interacting set of barriers to learning and change overlays the diagram above. In the GB Professional Development program ways to overcome these barriers are overtly addressed through the development of relevant and collaborative strategic planning.

A detailed explanation of how workshops have been organised to achieve these outcomes is beyond the scope of this article. However, at each stage of development, including full day pilot workshops, the Guide Beside project has carried out detailed evaluations, set against the criteria of providing understanding, practice and empowerment in each of the four key focus areas. Our evaluation tells us that both experienced and not-so-experienced participants achieve high levels of learning, skill improvement, and transformation in their practice, in the GB workshops and related activities.

An insight into how GB workshops achieve this can be gained by looking at the planning process that the GB project employs for each PD event. A PD program plan will typically map how the activities move between content and process, how the individual values and purposes of participants are identified and meaningful connections made, and how the networking and support needs of participants are recognised and catered for.

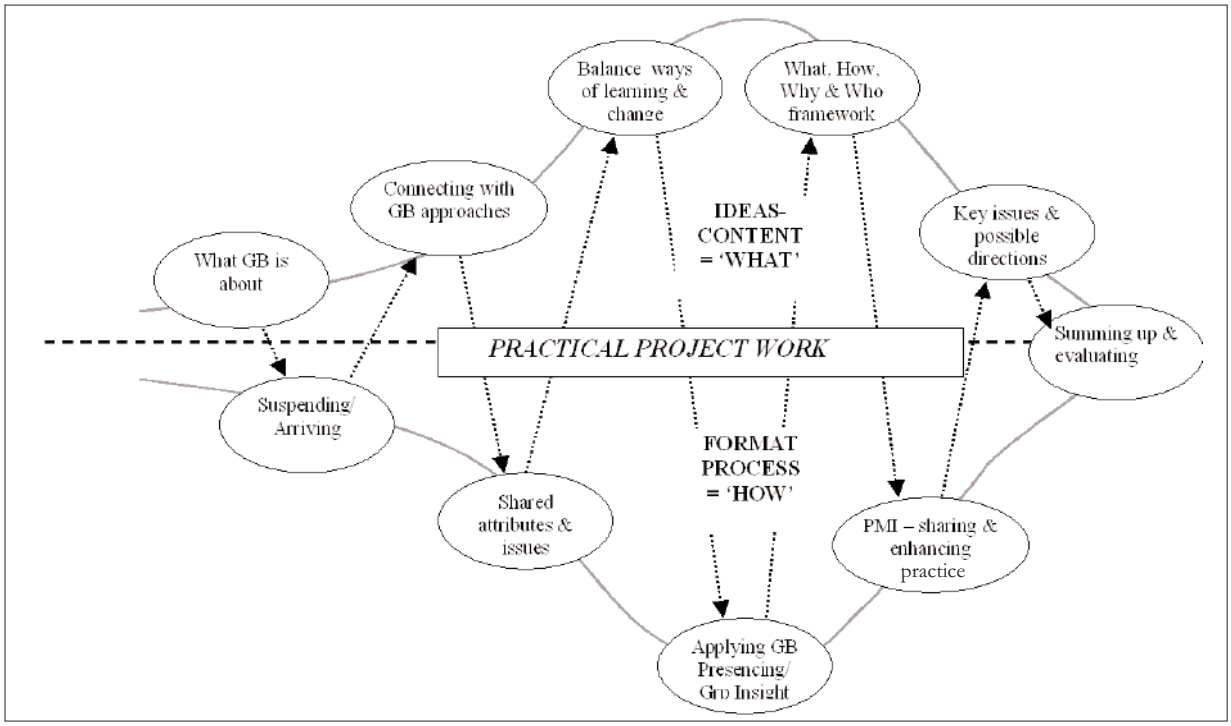

Figure 3: GB_PD Schematic Plan for a one-day workshop on Facilitating for Learning Based Change 2007

Practical PD Across the Intellectual and Affective Domains

A key challenge faced by the GB project has been to develop PD that itself is collaborative and transformative, using the same types of processes that facilitators of sustainability need to be using with their program/project participants. This has meant moving beyond 'do-as-I-say' or 'do-as-I-do' approaches to PD, to engage PD participant facilitators in both the theory and practice of effective facilitation at the same time – as well as walking through how these can be applied within and across the key focus areas of Facilitating for Behaviour Change, Strategic Planning, Evaluation and Evolution, and Building Partnerships.

Figure 3 illustrates a typical GB-PD schematic plan. The plan shown is for a 2007 day length pilot workshop on Facilitating for Learning Based Change

In this process, participants are deliberately and consistently shifted between content (the WHAT) and processes (the HOW) as the professional development progresses. This movement between content and process is made overt to participants and discussed as part of the PD process. Equivalent approaches to facilitation to allow for this deliberate linking between cognitive and affective domains, and what might be most appropriate for their individual circumstances, is also considered. For each of these domains, the GB Professional Development program ensures that participants contribute their perspectives at the start of any discussion or exploration

of frameworks, prior to the introduction of potentially relevant research and frameworks – as a general rule, in GB approaches, the perspectives and interests of the participants are valued and used as starting points for discussion and development.

Arriving – Building the WHO

At the beginning of any session, attention is given to creating connections between participants – what some experienced facilitators call 'arriving' or 'creating shared space'. This has equivalents (or, depending on your discipline orientation, 'explanations) in psychology (Goleman 2006) and also in neurophysiology. According to recent neurophysiology studies, we all possess specialised brain cells, called mirror neurones, which are primed to connect with any other person we meet, as soon as we encounter them, even before our cognitive (thinking) functions are engaged (Goleman 2006). This means that we each have an innate tendency to put ourselves in the position of others, a tendency to connect with other people. Effective facilitation draws on this innate tendency through structured activities at the start of a session, and is revisited regularly through the program, to build on and maintain these valuable connections (the WHO). Incorporated in with these introductory activities are related activities aimed at identifying shared experiences, values and reasons for our work in sustainability, and for learning together through PD (the WHY).

In sorting through the multiple ways that experienced facilitators of sustainability understand and describe their craft, a consistent set of focus areas requiring facilitation has emerged. Each of these is at play in any facilitated interaction or learning based change action, and each is interactive with the others. In simplified terms, what needs facilitating, in ways that allow flows of interaction between these, are illustrated in Figure 4.

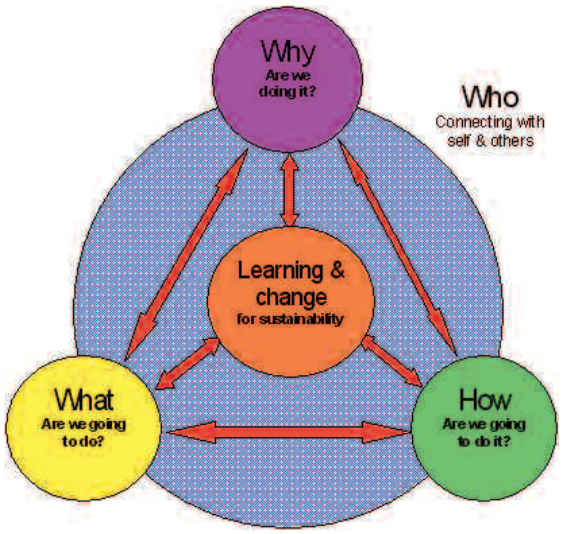

Figure 4: Synthesis of Elements involved in Learning Based Change Action

Detailed explanations of the systemic framework, outlined in sketch form in the diagram, are beyond the scope of this article. Perhaps a simple example, to help illustrate the framework, is to consider a roomful of people, mostly new to one another, meeting to learn about, and hopefully plan and take action for sustainability. Some people in the room will be very outcomes focused – primarily engaged with WHAT the group is going to do. Others recognise the importance of process, and are primarily focused on HOW the group is going to get done the tasks of identifying, planning for and initiating actions. On top of the 'What' and 'How', those present are likely to have a variety of reasons for being there, and these may not easily line up. Facilitation is required to identify common, shared and/or overlapping purposes- that is, WHY people are involved, so these diverse reasons don't suddenly surface as conflict later in the planning and action stages. Finally, everyone in the room has human responses, to one another and to the task at hand. Research and experience shows that many of these responses to others, which can be strong mediators of actions for learning and change, are not fully rational and arising out of cognitive control. It is the task of the GB facilitator to not only build shared purpose, but also to attend to the human connections, and sense of trusted, creative, collaborative space (which is referred to above as the WHO) that is the hallmark of groups who are most effective in learning and translating this into practical change. While all this is going on, the GB facilitator is responsible for ensuring that the practical, sharp end of learning based change, that is practical outcomes for sustainability, and effective and efficient processes of planning, implementing and feedback evaluation, are put in place so that these practical outcomes can be realised.

Effective facilitation for sustainability requires a special combination of skills, frameworks, ways of working and ways of maintaining self that many people are now in the process of mastering, and helping to evolve. It was the experience of many of the people involved in the GB project, that many or most of these can be learnt and improved on, with creativity and personal style – and not left to some vague notion that some personalities can, while others can't. The Guide Beside program, at its best, will be both a container and assistor for this fascinating and vital journey, as we enter the age of challenging climate change, and related global and regional environmental concerns.

Acknowledgements: Thanks to Pat Armstrong, Steve Ray, Brian Sharpley, Bridgid Soames, other VAEE office staff, the members of the various Guide Beside Project Reference Groups, and the many sustainability facilitators who attended forums, workshops and RoundTables. Additional information on the Guide Beside can be found at www.vaee.org.au .

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The Ollie's Island Program: Understanding the role of the consumer in a global environment

By
Jane Stewart, *Sustain Ability International P/L*
and
Bob Winters, *Educating Options*

Background

For most of human history people have lived harmoniously with their local environments, only taking what they needed to sustain their daily lives. However, as the world's population grew more and more goods were needed to feed, clothe and shelter more and more people. Technology evolved that brought improvements in agricultural production and goods manufacture. But it was the advent of mechanisation during the Industrial Revolution of the 19th Century that most dramatically changed our means of production and consumption.

In many countries around the world industrialisation continued unchallenged for almost a hundred years. By the middle of the 20th century communities began to notice the impact of modern development on the environment. In 1987 the United Nations released a document entitled 'Our Common Future' that challenged the notion of economic development at the cost of environmental degradation. At the 2002 Johannesburg World Summit on Sustainable Development, world leaders declared that "fundamental changes in the way that societies produce and consume are indispensable for achieving global sustainable development" (UN, 2004).

In Australia, government and industry understand the great importance of caring for our natural resource base and have been working together to implement sustainable production technologies for many years. However, government and industry are not the only sectors of the community responsible for sustainable development. The way that goods and services are produced can be greatly influenced by consumer demand. Australians are afforded a great deal of choice in deciding what to consume and, more importantly, when and what *not* to consume. For this reason, every Australian, young and old, has a powerful influence on patterns of both production and consumption.

Each day we make choices about the things we consume – but how many of these choices are actually informed decisions made with the real consequences of those choices born in mind? Many people today are disconnected from the ecological and social consequences of their consumption, and are often ill-equipped to make 'better' choices. For this reason, there is currently a vital need for an educational campaign that re-connects people with the impacts of their consumption and helps them develop the values, skills and knowledge to make better, more informed consumption choices in a global environment.

Educational Philosophy

Ollie's Island is an interactive edu-tainment program that explores sustainable production and consumption from a uniquely Australian perspective. It contains everything an educator would need to provide their students with a highly stimulating sustainability unit. The objective of the program is to reconnect consumers to the environmental, social and economic impacts of their consumption. It encourages behavioural change by helping users to:

- develop an understanding and appreciation of where everything they eat, drink, use and wear comes from
- identify their own role within chains of production and consumption
- understand the outcomes of their own consumptive behaviours
- recognise their powerful influence as consumers and as global citizens
- develop the knowledge and skills to make environmentally and socially responsible decisions and to take positive action within their own homes, schools and communities

The Ollie's Island program is primarily targeted towards middle year students and meets a wide range of learning needs. The CD ROM contains interactive activities and simulations, an Australian specific reference section along with 15 units of work. The content of the Ollie's Island Program is based on a view of learning that acknowledges a student's active role in the learning process. Rather than bombarding the student with a

multitude of facts and figures, the program's content is delivered through a series of interactive experiences that encourages the user to explore the content at their own pace and along their own learning pathways.

The content of the program also builds on educational pedagogies such as critical thinking and inquiry based learning. Students are challenged with a range of problem solving activities at varying levels of complexity, allowing for individual achievement. Following best practice in environmental education, the Ollie's Island program also encourages students to commit to taking personal actions in a number of key areas of sustainability.

The ultimate goal of the program is to enhance students' knowledge, skills and values as they become active, self-directed learners and ethically responsible citizens. The educator's role in this program is to help students make sense of issues for themselves, rather than telling them what they need to know. Teachers will find that this resource reflects the current changes in curriculum and assessment requirements and does not need modification.

Using the Ollie's Island Program to deliver meaningful curriculum

The Victorian Essential Learning Standards describe what is essential for students to achieve from Years Prep to 10 in Victorian schools. They provide a whole school curriculum planning framework that sets out learning standards for schools to use to plan their teaching and learning programs, including assessment and reporting of student achievement and progress.

As part of schools' curriculum organisation, individual classroom teachers will be provided with an expectation of the Dimensions and Standards by which they will need to assess their students. The Ollie's Island Program has been organised to help educators plan their assessment. All information for educators can be found in the Educator's section accessed from the Main Menu of the Ollie's Island CD ROM. Elements of this information are also posted on the Ollie's Island Website. For more information go to www.olliesworld.com/island

The Educators section contains 15 units of work. These units have been designed to maximise the number of Standards that students will cover. Educators need to choose the Standards they wish to assess. All units of work contain a range of suggested assessment tasks to assist in the student assessment process. Students will be given the opportunity to work in teams, build social relationships, solve problems, complete sophisticated communication tasks, possibly become involved in their community and use computers throughout their unit of work.

Jane Stewart is the Director of Sustain Ability International Pty Ltd, an Australian company specialising in the production of interactive edutainment programs based on principles of sustainability. As Executive Producer for all programs, Jane works with government departments, industry organisations and educational groups to develop programs that are in line with current industry practices and the latest educational standards and curricula. Jane has localised and distributed her programs in Australia, the United Kingdom, the United Arab Emirates and the United States of America. Email: jane@sustain-ability-int.com

Bob Winters has had key environmental and sustainability education roles over the past 30 years. He is author of about 60 environmental education books for teachers and students and has written and produced many websites. Over the years he has developed about 100 programs and worked with about 130,000 students and 10,000 teachers in his roles at Healesville Sanctuary and the Gould League. Bob still gets a thrill developing exciting and innovative sustainability education programs.

STRONG MUSCLES FOR IMAGINING: Educating for a Sustainable Future

By Sally Jensen, *CERES Environmental Park*

At a time when we are threatened by the possible collapse of natural systems, developing our ability to imagine is very critical. Due to our undeveloped 'muscles' of imagination, there are many vital mistakes we have made on behalf of the planet. I will argue that the development of a strong imagination is an important part of Sustainability Education.

The ability to imagine consequences, that seem real, has prevented car accidents, speeding fines, over consumption and broken relationships. It has also created budgets, recycling alternatives, water saving rules and new technologies. Yet 'Imagination' is not taught at school explicitly, and is somewhat relegated to the creative arts, which are also an 'aside' within the academic curriculum.

David Orr (1996) writes, "*The modern Western education system'* having *'replaced indigenous forms of education'* globally prepares a future of dependence on urban existence. The imagination has been an essential part of learning that has been harnessed by teachers in all disciplines for millennia. Yet this has been replaced by the push for progress and accomplishment. Young people have to design their personal ambition with awareness of massive, global environmental problems. We can only try to imagine the mixed messages they receive from the media, family, school and their own conscience.

The work of Elliot Eisner and the IERG (Imagination Education Resource Group) has initiated international awareness of the importance of the imagination in education in the western system. Aligned with Kieran Egan's (1992) view that all curriculum can be taught through storytelling, this chain of pedagogical views offers a balance between science and the arts, ancient ways of teaching and learning, and between learning information and learning for life.

Storytelling is the most ancient learning tool

Stories evoke our imagination; entering us and allowing us to make them our own. It has been used by every cultural tradition in the world including the 'Dreamtime' in Australia. The powerful and multifaceted learning that is facilitated through story evokes skills necessary to decide and create beneficial futures. Stories can teach without separating cultural history, education and sustainability as distinct areas of study.

As much as our imagination is *within* us, indigenous thought accepts with equal validity the 'Dreamtime' and/or imagined realms with our shared reality, and is deeply connected with the Earth. To honour and develop how we imagine in conversations for sustainability, we are beginning to form links with indigenous culture and pedagogy.

The organisation, awakeningthedreamer.org led the symposium "Changing the Dream". Initiated by a call from indigenous peoples in South America to the Western World, the request is "to change the dream of the modern world". The potency of the word 'dream' extends a Western interpretation of fantasy to a present and ongoing force of creation that is led by the way we imagine the world.

The Imagination is the ability to form mental images... It is a fundamental facility through which people make sense of the world."

Eagan (1992) and Sutton-Smith (1988)

Environmental educators in the East and West write that it is not just our practices, but our world view that has become unsustainable. Frank Fisher (2005) and Satish Kumar (1978) write about our 'real task' which is to unpack unsustainable metaphors and re-imagine beneficial ones. For example, the myth of "away" - when we 'throw away', where is *away*?

An incredible thesis on the roots of the environment movement, Buell (1995) traces US literature to prove how a deep relatedness with nature is kept alive through art. It offers art as a response to Al Gore's call that acknowledges the foundational realm of sustainable environmental change: "We need to rescue the environment as the central organising principle" (1992:325). Buell (1995) concludes that, "We live our lives by metaphors that have become deceptively transparent", suggesting the imagined foundation of our underlying perspectives and the possibility of art to rescue our environmental perception.

Just as information and knowledge have dominated the learning paradigm, a scientific way of thinking, observing and measuring has structured learning and understanding the world in western eyes. Our connection to the earth has been explained through the sciences. Yet it is still not yet our *experience*.

The scientist and writer Brian Greene (2004) encourages the development of our ability to imagine, to assist us in 'filling in the gaps left by our senses'. These gaps limit our experience of reality.

Quantum leaps in scientific thought invite us to imagine the nano and the virtual. An increasingly globalised sensitivity asks us to imagine other peoples and countries as a part of our own reality. Thoughts and feelings continue to invisibly influence our actions, our development and our sense of self. All these things need an imagination to conjure as true.

Greene (2004) suggests the threat of global warming may be the kind of evolutionary push that we need to develop such a 'Deep awareness and true understanding…'

The importance of the ability to imagine is critical right now to increase our ability to understand reality. We need

to encourage kids' imaginations and their ability to think for themselves so that their understanding of self is contextualised by the planet. To achieve sustainability it essential for us to help young people develop this 'muscle' explicitly, within a context that enables the awareness of its use.

Exercises to practice imagining:

Imagine yourself as a person in a family. Extend this image to imagining oneself as a human being on a planet.
Global or International comparisons: increases the muscle of the imagination and enables enlarged perspectives and a greater context for self. For example, water use in Australia per day as compared to people around the world requires imagining muscles and is extremely beneficial.
Origins Thinking: where do fish fingers come from? Fish. Where does a meat pie come from? A cow. Sustainability education requires us to imagine the origins of things in more detail, to include the growing, feeding, watering, transport, storage and buying of the things around us.
Futures Thinking: The knowledge that 'Recycling makes a difference' and 'do the right thing' can be extended through imagination education. Imagining the future of a present 'thing' as storm water litter, land fill or being hand sorted, chopped, melted and re made into a polar fleece jacket, utilises the imagination as the tool to access the consequences in the future to inform present thought and action.
Learning about the water cycle from a diagram can be extended by inviting kids to imagine their favourite beach and spread their minds out to connect it to the world's oceans. Imagining the real ocean evaporating will make the information credible and real.

CERES Education Team has developed a series of workshops that focus on including, encouraging, discovering and developing the imagination in a way that focus on the human and attitudinal basis of so many environmental issues. The streams of Waste, Water, Energy and Biodiversity can now also be taught through drama games and hands on activities. Please contact CERES or view the CERES Newsletter for information on workshops and packages that create an inspiring and powerful impact for students of all ages.

"...with the environmental crisis comes a crisis of the imagination, the amelioration of which depends on finding better ways of imagining nature and humanity's relationship to it."

Lawrence Buell (1995), 'The Environmental Imagination', p.2

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Sally Jensen is a secondary school art and drama teacher, currently working in the Education Team at CERES Environmental Park. She has been developing drama based sustainability programs and will present her theoretical ideas about the importance of the imagination in educating for sustainability at the IERG's International conference on Imagination in Education in Canberra, January 2008. Email: sally@ceres.org.au

CERES is just about to release the new brochure for schools P-12 for 2008. 'Drama and Sustainability' is a new area of programs offered for the first time.

Engaging the Community in Education for Sustainability (EfS)

By Julie Harris

The following is a brief summary of the workshop/presentation conducted by Sustainability Victoria during the 2007 VAEE Conference.

Commencing with the broad context, that 'education for sustainable development is a life-wide and lifelong endeavour which challenges individuals, institutions and societies to view tomorrow as a day that belongs to all of us, or it will not belong to anyone.' (UN DESD 2005-2014), the session then focused on recent developments in Victoria and how Sustainability Victoria (SV) is embarking on a collaborative approach to leadership in the EfS sector, particularly in the schools context.

In carrying out its legislative responsibility SV is working closely with the Department of Education and Early Childhood Development (DEECD), the Department of Sustainability and Environment (DSE), the Victorian Association of Environmental Education (VAEE), other key government agencies such as the Environment Protection Authority and Melbourne Water and a wide range of service providers from the EfS sector including CERES, Gould Group, Department of Primary Industry Landcare and Landlearn, Zoos Victoria and Greening Australia (Vic).

It's also important to note that along with the wealth of knowledge from EfS practitioners in Victoria over the years, SV's leadership role is informed by the following policies and initiatives:

- Our Environment Our Future-Sustainability Action Statement (2006)
- The Sustainable Schools Initiative (pilot programs)
- Links with the national Australian Sustainable Schools Initiative (AuSSI)
- National Environmental Education Statement

SV sees its role within the sector as one of leading, complementing, supporting and continuing to drive strategic growth and is engaging the EfS community specifically by providing leadership for future direction in Victoria as well as delivering a number of key programs.

In the 'Community and Customer Service Unit' of SV our purpose is to support and engage individuals (5 million Victorians) to be climate neutral by mainstreaming sustainability into everyday actions. Our focus is on behaviour change through informing, influencing, involving and investing, targeting the following sectors: householders at home and out and about, education and training, government, social marketing, research and programs development and all Victorians.

Key programs include:

- The ResourceSmart consumer advice centre;
- the Green Power campaign;
- The Right Advice at the Right Place, where retail staff are trained to inform shoppers at point of purchase to make energy and water efficient decisions about appliances, lighting and hardware;
- Rebates;
- Trades and Professional Training programs;
- The Energy and Water Taskforce that provides low income households with free energy and water efficient retrofits; and
- Programs such as Byteback, Paintback, Batteryback and Detox Your Home, which involve safe and easily accessible collection of toxic or recyclable materials.

Key school programs and responsibilities include:

- The Sustainability in Schools State Steering Committee (SSC): The SSC's mission is to provide strategic direction to the delivery of EfS resources and programs into all Victorian schools. The SSC formed in July 2007 and involves key Government and non-government organisations working together in a genuine partnership approach. Comprising 5 members that includes SV, DSE, DEECD, VAEE and a practitioner representative and chaired by SV it will be supported by a flexible arrangement of working parties, reference groups and consultation forums as well as a 'framework' and prioritised strategic plan.
- Other school programs either directly delivered by SV or funded by SV and delivered through program partners, include the Rubbish Free Lunch Challenge, Waste-wise Schools, The ResourceSmart School Awards and Solar in Schools described below.

Engaging young people as equal citizens in our community

The Victorian EfS community, which can be described as a Community of Practice (Wenger 2005) or Learning Community, is intended to be as broad and inclusive as possible, thus providing all of us with the challenge of how can we best bring young people into the 'community'.

'De Winter (1997) argues that it is not sufficient to just provide structures for children to engage in decision-making if those structures do not also bring about a change in their ability to participate as equal citizens within the context of the community.' (Percy-Smith, 2006).

In exploring this idea, participants created a graffiti wall of pictures, key words and statements of what they wanted for their children or grandchildren. The graffiti wall was then compared with the visions and aspirations of five young people from Wattle Park Primary School.

The adult graffiti included:

- Engaged community
- Strong leaders who are diverse, committed to the environment
- Sustainable urban development
- Opportunities for risk taking

- Access to natural environment
- The same things we have enjoyed whilst growing up
- Relationships having a higher priority than materialism
- Common community spaces: gardens, parks, local produce
- Connected reliable public transport
- Less reliance on fossil fuel and its by-products
- Biodiversity – preservation of plants and animals

The messages from the young people were in comparison more simplistic, refreshing, succinct, creative and uninhibited by complexities or constraints (these were the comments from the adults once they'd seen them). "They had a much clearer picture of what they wanted their environment to be," remarked an ex-principal.

- Solar/wind power
- More trees
- Tanks
- Chickens
- The lights in the city to go off during the day
- Only cut down trees if its really necessary
- $2500 fines for cruelty to animals
- Electric cars

They also had very clear messages for us in relation to what we should be doing right now to help them achieve that future:

- Don't buy bottled water.
- Nuclear power is not the best option.
- More wind power.
- Make things that help the world cheaper and things that are not good for the environment more expensive.
- Packaging of food is bad … reduce packaging.
- Have one minute showers.

Involving young people in creating the vision for a sustainable school community:

- provides us as service providers and program developers with a clear vision for what young people actually want for their lives in the future
- clarifies what we perceive is desired for our future communities at a local, national and global level based on our current world views which in turn are shaped by past experiences (baby boomers, Gen X, Gen Y)

involves them in the stewardship of both their current and future world at a much earlier stage of their lives as equal citizens

- allows us to check whether we are getting it right or not

by being truly collaborative it creates a sense of integrity for the visioning process in the eyes of the young people as opposed to 'this is our vision and we need you to help us get there'

- and not to mention the sense of great joy, energy and motivation for our continued involvement in creating sustainable school communities

Whether it is a Chinese proverb, as one website states, or an Aristotle quote, as claimed by another, 'Tell me and I will forget, show me and I may remember, involve me and I will understand' serves as both inspiration and a reality check for us all as we engage our communities (local, state-wide, national or international) in education for a sustainable future.

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If you are interested in finding more about the SV story in the EfS sector, want further information about all of the above programs or have some ideas you wish to share then visit the Sustainability Victoria website www.sustainability.vic.gov.au , email schools@sustainability.vic.gov.au or keep you eyes and ears open for future activities, workshops, roundtables or presentations.

Grade 4/ students from Wattle Park Primary School share their vision for a sustainable school community. Photo courtesy of Randal Symons.

Pleasurable Food Education via Kitchen Garden Programs

By **Ange Barry**, *Executive Officer, Stephanie Alexander Kitchen Garden Foundation*

The kitchen garden program, which commenced at Collingwood College in 2001, was created by Stephanie Alexander to deliver *pleasurable food education* to primary school children. The Stephanie Alexander Kitchen Garden Foundation exists to develop life-long healthier and happier eating habits in a new generation of Australians by engaging them in growing, harvesting, preparing and sharing delicious and healthy food at primary school.

The program involves weekly classes in a productive vegetable garden, where the children learn to care for the earth, grow their own food, understand water conservation and organic gardening methods. They also have weekly classes in a home style kitchen, where the children prepare and then share the fresh food they have nurtured and harvested in their garden. The sharing of the meal is the culmination of both the garden and kitchen classes, and the opportunity for the children to experience the pleasure of fresh food. The weekly frequency of the classes and the sharing of the meal is where we believe the positive life-long habits are formed and reinforced. The program focuses on hands-on learning, where all children are engaged during both classes, working in small groups with a volunteer, with the class led by a specialist staff member.

In 2006 the Foundation joined with the 'Go for your Life' health initiative of the State Government to fund twenty new school projects across Victoria. The grants attracted a wide range of interest from school groups, and twenty four schools were chosen to share the funding, to create twenty new kitchen garden programs. This year, the Foundation has supported the new schools to engage their communities to design and build a beautiful garden and home style kitchen, for their children to enjoy. Many institutional partners have been engaged to support schools through this process, including Holmesglen TAFE which has built 5 school kitchens for the program.

The kitchen garden program now exists in twenty seven schools across the State, with a 50\50 mix in metropolitan Melbourne and rural Victoria. There are currently 3000 Victorian children enjoying the program each week, and in 2009, a further 20 schools will be receiving grants through the second Phase of the 'Go for your Life' Kitchen Garden Project with Stephanie Alexander. Also, under a Federal Labor Government, the kitchen garden program will be 'rolled out' to a further 190 schools, across the country, over a four year period. As a result, the Kitchen Garden Program will operate in over 43 Victorian state schools by 2009 and will extend to a further 190 schools Australia-wide by 2011.

Ange Barry is the Executive Officer of the Stephanie Alexander Kitchen Garden Foundation. Ange joined Stephanie Alexander and the team in August 2006 to manage the growth of school projects in Victoria and nationally. Ange has experience in managing community organisations and combines this with a background in the corporate sector. For any further information, please visit our website www.kitchengardenfoundation.org.au

The photographs were taken during kitchen and garden classes at Nunawading Primary School show the four elements of the Kitchen Garden Program: Growing, Harvesting, Preparing, Sharing (Photographs courtesy Simon Griffiths).

Get Green

by Shae Hunter, *Sustainability Education Officer at Village Green*

Village Green is a private organisation specialising in sustainable solutions for small to medium sized enterprises around Australia. Recently, Village Green undertook a pilot programme called Get Green in five schools in Manningham. This programme focused on creating a holistic approach to sustainability in schools to improve outcomes for energy, water, transport and chemical use as well as waste production.

Village Green education staff presented the results of a review of the Get Green programme at the VAEE conference 'One Bite of the Cherry' in October 2007. Three participants attended the session and participated in a lively discussion around the topic of sustainability in schools.

The Get Green programme is a year long programme with modules broken down to fit into the four school terms. Although the programme is designed to be flexible it is was run this year as follows:

Term 1 was spent getting to know the school and ensuring staff members support the programme. At this point, time was spent deciding the logistics of the programme such as where and when the session would take place and who would participate.

Term 2 comprised of ten sustainability sessions delivered by the Village Green education staff on the topics of water, waste, energy, transport and chemicals as well as topics such as bio-mimicry, effective communication of an environmental message, project planning and auditing. In these sessions up to twenty representatives from each school took part in lessons that provided them with a framework through which they could make environmental decisions in the future.

In Term 3 and 4 the school was then able to carry out environmental projects such as collecting grey water, installing rainwater tanks and strengthening existing environmental programmes by allowing the students to continue to meet up. At this stage of the programme participants of the sustainability sessions were recognised with awards in front of the whole school.

The review of the Get Green programme is designed to give Village Green and other stakeholders of the programme, such as those at the VAEE conference, an indication of its strengths and weaknesses thus far.

Village Green's Sustainability Education Officer, Shae, firstly gave participants of the VAEE session a run down of the Get Green programme. This was followed by an outline of the methodology used to gain feedback on the programme, which was a combination of qualitative and quantitative data from students, teachers, principals and parents. The scope of the review was also presented to clarify that only three out of the five schools were involved in the review. This was because one school was still in the middle of their sessions due to an altered format and another was unable to participate in the interview and questionnaires. Both these schools will be included in the final evaluation.

The facilitator then went on to describe the results of the review and discuss these with the participants of the session. There were four key outcomes around which results were presented, namely:
Transformative learning has occurred within the Get Green group and penetrated into the wider school community.
Sustainability projects are being developed and completed throughout the school.
There is an increased awareness and interest of environmental issues within the whole school community (including parents and teaching staff), and
The Get Green team, or similar, continue to meet and carry out environmental improvements to the school.

Key results around these four areas are as follows:

Transformative learning:

Both parents (76 percent) and teachers (85 percent) believed that the children who participated in Get Green had undergone some form of transformative learning, in that they now had a new framework with which to make environmental choices. Parents gave examples of actions in the home that reflect this, such as creating new ways to save energy and water. Teachers reported seeing role-modelling behaviour occurring between participants and non-participants of Get Green as well an increase in collective responsibility and extended vocabulary around sustainability. This outcome will be improved upon in the future by providing more information to each class teacher in participating schools to ensure teachers can question Get Green students appropriately in class time to be able to share lessons learned with the entire class more successfully.

Sustainability projects:

This was a challenging aspect to measure as the review was carried out while this outcome was taking place. The first key outcome was that each school was provided with

The Village Green Stall during the 2007 VAEE Conference (Photo provided by author)

the means with which to raise funds for sustainability projects. This was achieved mid-way through the sustainability sessions when Manningham City Council donated 120 compact fluorescent light globes to each school for them to sell. Additionally Village Green brokered an arrangement for each school to be able to purchase more globes with part of the funds raised at cost price to allow for a continuous fundraiser. Schools were also introduced to Green Canary, a sustainability fundraising organisation.

The second key outcome was around project planning. The theme was woven through three sessions towards the end of the sustainability sessions and one lesson was devoted to action, or project, planning. Participants responded very well to these lessons and gave feedback suggesting that they were more confident in working with people in the school on environmental projects.

Thirdly, the actual projects that were taking place at the time of the review displayed some of the learnings around action planning and approaching people that were taught in the sustainability sessions. In one school signage was created for recycling bins and delivered to each class and in another school a system to collect and disperse waste water from drinking taps was developed. In both cases Get Green participants used education and role modelling behaviour alongside their changes. The weakness in this outcome that will be addressed in future versions of Get Green will be that fundraising will begin earlier in the programme so participants can begin their projects sooner.

Increased awareness and interest

The first key finding for this outcome was that over 90 percent of parents believed that both the interest and awareness that their child has for the environment had increased following their participation in the Get Green programme. Additionally, 70 percent of parents thought their own interest in the environment had increased after their child participated in Get Green and similarly 70 percent thought their own awareness had increased.

The second major finding was that all teachers who responded to the questionnaire thought that both their classes' environmental interest and awareness had increased as a result of their school having participated in the Get Green programme. The third key finding was that approximately 60 percent of teachers in schools considered their own environmental interest and awareness to have improved following their schools participation in the Get Green programme. Lastly, the interviews with teachers and principals revealed that they considered the effect on teachers to be most important as this was a challenging area of the sustainability journey for their schools.

Get Green team continue to meet:

At the time of review two out of the three schools were continuing to meet following the completion of the sustainability sessions. They had attracted extra participants from around the school and were working on planning new sustainability projects. For the future roll out of Get Green an element will be added to the earlier phase of the programme to ensure that additional time can be provided to allow for meetings to continue.

The next part of the conference session involved a discussion around these outcomes and around sustainability in schools in general. Lots of ideas were exchanged and both successful and challenging aspects of running sustainability programmes in schools were examined.

Living in 2030: An Experiment in Survival *(Integrated Curriculum for Year 9)*

By Dr. Christina H. Jarvis, Anna LeFevre and Kara Spence *of Williamstown High School*

Living in 2030: An Experiment in Survival (see boxed module on next page) is a response to some frightening claims about the state of our planet. Across the globe a rapidly growing human population demands more and more energy, food and water. The economic rationalist thinking of the developed world proclaims the lunatic slogan, 'grow at all costs'. The protein-rich diets of the developed world have poisoned and depleted our terrestrial and ocean environments. We use fresh water in a way that often leaves it in a degraded state. It has been suggested that in years to come, wars will be fought over fresh water (Roddick 2004). The globalisation of Asia, particularly China and India, is placing unprecedented pressure on our natural resource base. Specifically, an over reliance on fossil fuels has changed the chemistry of our air.

The Living in 2030 Unit is a collaborative effort by three Middle Years teachers at Williamstown High School and was designed using the Inquiry Based Approach to teaching and learning. Ideally taught over a six week period, the modules are designed to be increasingly driven by the students. Skill-based lessons form crucial part of the early stages with a focus on a student driven Rich Team Task at the conclusion of the unit.

In designing a unit of work to teach children about current and future environmental problems, we wanted to avoid the easy habit of feeding information to our students and having them regurgitate it in various formats. Knowing that people 'learn by doing', and recognising the frightening implications of current environmental predictions, we felt it timely to create a unit of work which aimed to educate children, help them educate themselves and critically, empower them to educate others. The ultimate aim of this challenging and complex unit is grass roots changes at the household level.

The Living in 2030 Unit has been designed using current Middle Years education theory. In particular we have focussed on assessment tasks based around Gardner's Multiple Intelligences in order to provide students with a variety of ways to demonstrate and reinforce their learning. The Journal tasks allow students to document the progress through the unit not only via intra-personal tasks but also by visual spatial methods, for example the 'found items' pages. Inter-personal methods are employed as students gather data from a range of community stakeholders. Activities in the unit allow for students to present their work musically and artistically. In all instances, the Living in 2030 Unit endeavours to engage children in rich tasks, in thinking activities, and in student driven tasks. Consistency and transparency through the use of rubrics allows for assessment which is accessible for students.

'The Business as Usual House'

In acknowledging the grave nature of the environmental issues we are currently faced with, the 2030 Unit aims to educate students about what life may be like in coming years if we do not switch to more sustainable ways of living. One part of the Unit involves families living in a future where environmental warnings have been ignored. In our predicted 2030 House, there is not enough water or energy to support a family in today's living standards. In addition, some foods are limited by price, depending on the amount of water used to produce these products. For one week these families exist with 50% less water, gas, electricity and petrol than they ordinarily would consume. They must also eat 'sustainably' which means little meat and only using foods that are in season.

Living in 2030: An Experiment in Survival is a call to arms. 'World War Environment' is well and truly underway. As both enemy and friend, we have all the technology but little of the will to create a sustainable environment. Armed with the skills and knowledge contained in this unit. It's the fight of their lives. We need to help them win!

Christina Jarvis specialises in the Middle Years. Christina works to inspire sustainable living in her students through creating engaging though-provoking curriculum. With a PhD in Geography and Environmental Studies from the University of Melbourne, she has a passion for teaching Environmental Education.

Anna LeFevre is passionate about engaging students with thoughtful and contemporary approaches to curriculum. She works as a teacher of English in Williamstown High School. She has used her love of language and creativity to make the activities of the 2030 project fun and appealing to students.

Kara Spence is currently the Environmental Educator with the Environmental Neighbourhood Cluster. Kara brings a variety of skills and experience from her work in Environmental Education and Community Action over the past 15 years. Kara has thrived off the wealth of expertise and experience in the cluster. Working collaboratively with a diverse group of teachers and students to build a more engaged community has been a fulfilling challenge.

Reference

Roddick, Anita with Brooke Shelby Biggs (2004) *Troubled Water: Saints, Sinners, Truth & Lies About the Global Water Crisis.* Anita Roddick Books.

Living in 2030: An Experiment in Survival - Condensed Unit Outline

Problem

Scientific predictions tell us that our current use of water, energy and food production is unsustainable With Melbourne's population predicted to increase by one million people by 2030 how will we meet the rising demands placed on our natural environment?

Module 1
Tuning In – What's the Story?

Introduction stage, students draw on their own understandings of current environmental issues, such as water shortages, fossil fuels, pollution, climate change and food choices. An exploration of the students' understanding of global environmental issues is made. Students discuss definitions and begin to discuss natural resources, environmental sustainability and where the world is headed if current trends continue.

Activities –

- Introduction and inspiration – film, quotes, stories, images etc.
- Finite Resources Game
- Global Resources context – guest speakers
- Excursion to CERES
- Global Citizenship
- Bringing it Home – Local context
- Introduction and planning for the "Business as Usual House"

Module 2
Finding Out – The Fact Is

Students apply thinking skills to collect new information about environmental issues affecting us today. Teacher(s) consults with local community to arrange for excursion, guest speakers and more content information if needed. Students begin to study an individual area of interest. The class is led through the necessary skills and concepts which will be applied to the group tasks and develop in the students a deeper understanding of the concepts being studied.

Activities –

- Critical Literacy
- Interpreting statistics
- Water, Air and Land Pollution
- Water Cycle
- Climate Change predictions
- Individual Journal task is introduced for deeper reflection
- Discuss rationale for "Business as Usual House"

Module 3
Sorting Out – The Fact Is

Students analyse the data they collected through excursions, guest speakers and research and select ways of presenting this data. Class discussions are a vital part of this analysis and material collected can be displayed. Record sheets from Finding Out activities are also vital resources.

Activities –
- Graphing of energy use – study of household utility bills
- Excursion – Werribee Sewerage Farm
- Students identify areas of interest and decide on team tasks
- Journal task is highlighted to begin sorting through thoughts
- Planning folder is used mostly during this stage

Module 4
Going Further – Imagine If…

Students here get an opportunity to choose an area that interests them and use their preferred learning style to look deeper into the issue. There are independent tasks with choice and group tasks to choose from.

Activities –
- Study of alternative energy sources
- Investigate alternative water use
- What is sustainable agriculture?
- Further investigation into team tasks
- Journal is highlighted for individual reflection

Module 5
Taking Action – Over to YOU!

Working in small groups, students take action for the environment. Students can select from eight options as their Team Task. Teachers are reminded that not all Team Tasks need to be undertaken in order for the 2030 unit to be successfully completed.

Team Tasks:
- Create an advertising campaign
- Produce a radio show
- Create a children's puppet show and story book
- Create a website
- Project Managers for 2030 Unit
- Design a future Green Home
- Create a school newspaper
- Produce a short film

Module 5
Taking Action – Over to YOU!

At the conclusion of Living in 2030 students bring together all the information and experiences that have encountered during the unit. The class then considers what they can do as individuals improve their local environment.

Activities –
- Share all student Team Tasks for discussion.
- Consider hosting a community forum evening.
- Prepare for student assembly to report on 2030 project.
- Show student produced videos from the 'Business as Usual House' for discussion.
- Watch the movie "Pay it Forward" to highlight how one person can affect change.
- Responsibility Tree – add a leaf to show a promise you will make to help the environment.

The Victorian Solar in Schools Initiative 2007-2011

By Julie Harris, *Sustainability Victoria*

The Victorian State Government is committed to taking a lead on sustainable energy and providing future generations with clean, efficient and secure sources of energy. During the 2006 Victorian election, the Victorian Government's policy document 'Tackling Climate Change – Helping Victoria Play its Part' committed $5 million over four years to install solar panels on 500 schools and community buildings.

The *Solar in Schools* initiative, managed by Sustainability Victoria supports schools and community facilities to install grid-connected solar photovoltaic (PV) power systems, interactive energy monitoring systems and develop educational materials on renewable energy and energy demand.

Key aims of the program are to:
Encourage change to community behaviour through the provision of educational activities and communication tools about the benefits of renewable energy
Reduce greenhouse gas emissions through an increased uptake of photovoltaic (PV) systems.

The primary objectives of the Victorian *Solar in Schools* initiative are:

enable and build capacity within the community for informed choice and decision making for future energy supply choice

maintain community and political support for renewable energy and government objectives

deliver the basis for a targeted, hands-on education program to primary and secondary levels which will highlight the methods and benefits of renewable energy generation

deliver an education platform about renewable energy for the broader community in Victoria, ensuring the community has access to improved information and awareness of the benefits of renewable energy

The *Solar in Schools* initiative will also:
contribute to Sustainability Victoria's ResourceSmart schools suite of programs
complement the AuSSi-Vic program – particularly in relation to the Energy module
provide a wide spread hands-on opportunity for education addressing the economic and social benefits of distributed generation and peak supply opportunities

All Victorian schools and kindergartens are eligible.

The Solar in Schools Initiative is launched at Bentleigh Secondary College.

Schools and community organisations are eligible for both state and federal rebates. Eligible community organisations are either government-owned or incorporated not-for-profit organisations. Commercial enterprises are *not* considered to be eligible community organisations for the purposes of *Solar in Schools*.

The systems must be highly visible, utilised for educational purposes and increase awareness of energy use and renewable energy generation in Victoria (including energy monitoring and educational material to complement the school curriculum and community activities).

The available rebate is dependent on the size of the system installed (minimum 1 kW to 5 kW) and is offered on a sliding scale from $3000 to $15, 000, at $3 per watt installed.

The initiative was announced in June and the first round, which was a limited round, will provide rebates to approximately 25 schools. The round opened on August 1 and closed on September 28. The application package was distributed to a database of all schools that expressed interest (over 270) and was also available on the Sustainability Victoria website.

To be eligible for the rebate, interested schools and organisations need to submit an application form responding to a range of criteria including system and installation details, education and communication plans.

SV encourages innovative approaches to informing and educating school and broader communities about solar panels and solar energy to increase the use of renewable energy in Australia. Applications are assessed primarily on the merit of educational and interpretive activities to be conducted. Schools and community organisations will need to provide a very clear picture of what activities they are already doing in relation to sustainability and

what they will do when the system is installed.

Top tips from Bentleigh Secondary College who were the site of the program's launch:

- Get support from your school leadership
- Personal drive is an important element
- Get at least 3 quotes and get as much information from installers as possible
- Back-up service is important. Ensure installers are provided with support by product distributors
- Buy as much Australian product as possible
- 5 kW system was preferred

Some useful websites to find out about solar energy include:

- http://www.energex.com.au
- http://www.energex.com.au/switched_on
- http://sedonewsbyemail.vivid-design.com.au/DisplayNews.asp?ID=370
- http://sedonewsbyemail.vivid-design.com.au/DisplayNews.asp?ID=370http://www.solarschools.net/
- http://www.solarschools.net/
- http://www.greenhouse.gov.au/

http://www.kidcyber.com.au/topics/solar.htm

Information regarding Round Two of the Solar in Schools Initiative will be available on the Sustainability Victoria Website from early/mid December, 2007 (www.sustainability.vic.gov.au) and will close on February 29, 2008.

Applying for a Solar in Schools rebate and further information

Download the Application Package at www.sustainability.vic.gov.au by following the links from: Take Action> In Schools >Solar in Schools

For technical enquiries associated with *Solar in Schools* please email solar.schools@sustainability.vic.gov.au or ring the Customer Service number: **1300 363 744**

For enquiries regarding the federal rebate visit www.greenhouse.gov.au

Julie Harris works as the Schools Programs Manager within the Community and Customer Service unit of Sustainability Victoria. Prior roles in sustainability education have included teaching in Victoria Primary Schools and overseas, Schools Programs Co-ordinator and Education Officer at Zoos Victoria, and also as a visiting environmental education consultant, volunteer and DEST Endeavour Executive Award recipient (2007) working in Cambodia.

Email: julie.harris@sustainability.vic.gov.au

SUSTAINABILITY ACTION PROJECTS (SAPs) Workshop

(aka VELS and SUSTAINABILITY)

Developing an action-focused Sustainability Curriculum

By Anthony Mangelsdorf, *CERES*

"What's important is that children have an opportunity to bond with the natural world, to learn to love it, before being asked to heal its wounds."
David Sobel, Beyond Ecophobia (1996)

The following is a documentation of the two VELS and Sustainability Workshops conducted at the Toolbox for Environmental Change on 24th July 2007 at RMIT Melbourne with the aim of providing the reader with 1) an introduction to the Sustainability Action Projects (SAPs) approach, and 2) a list of great sustainability ideas according to the SAPs model.

Acknowledgement is hereby given to the participants of both workshops for their generous contribution of sustainability ideas that the reader may use to help to develop their own Sustainability Action Project.

AIM OF WORKSHOP

The aim of the **Sustainability Action Projects** Workshop (aka VELS and Sustainability) was to introduce participants to processes and tools, utilised in the Australian Sustainable Schools Initiative Victoria (AuSSi Vic), to develop whole-school, behaviour change-focused sustainability curricula that…

- Builds relationships with self, others and environment
- Contains real actions for sustainability
- Is Powerful and Meaningful (i.e VELS specific)
- Is Connected to Real World
- Is Enquiry Based
- Is Multi Sensory
- Is Challenging and Fun for students and teachers
- Is Teacher Driven and Student Centered
- Uses Critical Action Questioning e.g. **"How can we make Our World a Better Place?"**

The workshop began with a contextualisation by Conrad Remenyi of the Department of Education and Early

INTRODUCTION

Childhood Development (DEECD), who manages the Australian Sustainable Schools Initiative, Victoria (AuSSI,Vic). Conrad outlined that AuSSI,Vic provides a consistent message about aiming for education for a sustainable environment. He explained that AuSSI,Vic provides an umbrella and whole school approach for schools to build a sustainability policy and associated activities and under which all government and community agency programs can support schools.

PRINCIPLES

The development of whole school sustainability curricula is guided by two principles:
Building Relationships with Self, Others and Environment
Taking Action…to make the World a Better Place

The Sustainability Action Projects (SAP) model has been derived from the I.S.O. 14001 (International Organisation for Standardisation) environmental management system. The ISO 14000 group of standards is used to help organisations minimise the environmental impact of their operations.

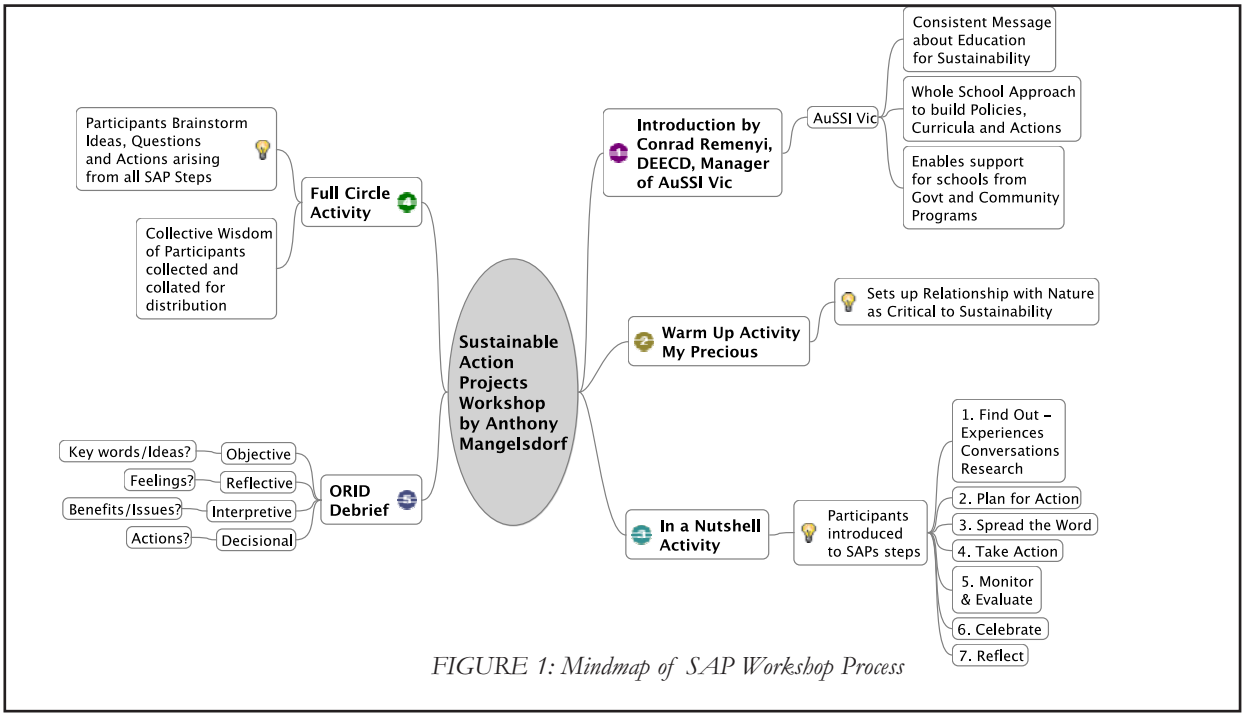


FIGURE 1: Mindmap of SAP Workshop Process

OVERVIEW OF WORKSHOP PROCESS

A facilitated process, as shown in the mindmap in Figure 1, was used to introduce the Sustainability Action Projects (SAPs) model and to capture the collective wisdom of the workshop participants, as they begin to apply the models to curriculum design.

Groups were given a series of statements about each of the seven SAP steps and asked for an Essence Statement ("In a nutshell…") and later for some ideas and examples for each SAP step.

SUMMARY OF WORKSHOP OUTCOMES

The following is a summary of the collective wisdom of the participants from the two VELS and Sustainability Workshops, grouped according to the seven steps of the Sustainability Action Projects Model (SAP) that was used in the workshop.

In other words…this is a huge list of **great sustainability ideas** to help implement a Sustainable Action Projects approach at your school!!

STEP 1: FIND OUT (Experiences, Conversations, Research)

Essence Statements:

In a nutshell, Step 1 (Find Out) is about…

- *"…Creating enjoyable experiences, discussing, gathering information, recording data (fact finding), using a variety of methods."*
- *"…an awareness of issues; experiencing your patch of earth, talking about it, environmental impact audits."*

Ideas and Examples for ***Finding Out (Experiences, Conversations, Research)***

- Site visits / field trips
- Experience (outdoor) environments – find out what needs to be developed; talk and discuss what is required / immerse with information; research to find out improvements
- Surveys / audits
    - Start with home and school – then make broader connections
    - Ongoing surveys (with targets and indicators)
    - Collect data
    - Water audit / water bills
    - Energy audit / energy bills
    - Waste audit /waste bills
    - Biodiversity audit
    - Ecological Footprint
    - What needs to be improved?
    - Mind mapping – how the students use energy
    - Habits / behaviours
    - Sharing – discuss
    - How it works (watts – power consumption)
    - White Hat
    - Guest speakers
    - What we already know – e.g. facts, experience, statistics, research
    - Stories
    - Websites

STEP 2: PLAN FOR ACTION

Essence Statements from Group A and B

In a nutshell, Step 2 (Plan For Action) is…

- *"…the timeline of the project and the overall action plan."*
- *"… is how the plan looks."*

Ideas and Examples for ***Planning For Action***

- Make some decisions
- Set goals and timeframe
- Identify a focus
- Blue Hat
- Form planning committee – ensure students are involved as they are the link to the community
- Meet with community – school, wider community
- Include flexibility
- Research resources available
- How can we plan for action?
- Who will be involved? E.g. target local industry / business
- Access funding / apply for grants – access people who support and write grants

STEP 3: SPREAD THE WORD

Essence Statements from Group A and B

- *"In a nutshell, in Step 3 (Spread The Word), the project outcomes will be communicated to the school and community by the project group."*

Ideas and Examples for ***Spreading The Word***

- Contact CERES Sustainability Hub to upload case studies
- Local newspaper, radio station
- Assembly – student presentations
- Posters around school
- Invite politicians / parents to school information events
- Public relations
- Pen pals across schools nationally
- Information night for school and wider community
- Focusing first on family
- Involving experts
- Inviting representation from wide community
- Use results to date to gain donations and support from

community groups e.g. RSL
- Use school newsletter as a means of raising awareness in the community – get students to write the articles
- Involve media / alert local media
- School assemblies
- Environmental leaders in schools
- Internet – school websites
- ACF – Green Home Project
- Displays in local library
- Local politicians

STEP 4: TAKE ACTION

Essence Statements from Group A and B

In a nutshell, Step 4 (Take Action) involves…
- *"…Getting your hands dirty, leaving the classroom to be actively involved in implementing the plan for improving sustainability."*
- *"… (undertaking projects where) students are empowered to take action to make a difference."*

"…Taking action by community involvement and education."

Ideas and Examples for ***Taking Action***
- School and home audits
- Action plan based on result of audit
- Set goals and targets
- Do same thing at home
- Turn off / reduce use of appliances i.e. computers, lights, heaters
- Encourage students to wear layers during winter
- Replace light bulbs / change light fittings in school
- Create posters and promote via newsletter
- Write letters to M.P.s
- Appoint monitors
- Hero badges
- Provide thermometers for classrooms
- Approach school council re: Accredited Green Power
- Notices in newsletters
- Songs, events, performances
- Parent /teacher / student forums
- Invite experts
- Fundraisers

STEP 5: MONITOR AND EVALUATE

Essence Statements from Group A and B

- *In a nutshell, Step 5 (Monitor and Evaluate) is about…"evaluating the effectiveness of the SAP by revisiting Step 1 (Find Out), engaging in further conversations about the impact of the project and re-measuring the initial data."*

Ideas and Examples for ***Monitoring and Evaluating***
- Audit / feedback / checking / recording / compare
- Measure against predictions / goals
- Photos / videos – before / after
- Interviews
- Surveys – energy use (electric, gas , transport)
- Observations – where energy is being used; where energy can be saved
- Journals – of home / household use
- Forms / tables – energy use (time series); cost savings
- Compare with other schools
- Impacts beyond the project

STEP 6: CELEBRATE

Essence Statements from Group A and B

In a nutshell, Step 6 (Celebrate) involves…
- *"…Promoting and communicating results of SAPs within school, local and wider community."*
- *"…the project group promoting and celebrating the effort and achievement of the program."*

Ideas and Examples for ***Celebrating***

Whole school event linked to successes
- Media – invite local politicians and government representatives
- Recognition of key players e.g. plaque
- BBQ
- Opening of e.g. frog pond / garden / chook shed etc
- Launch of webpage to coincide
- You Tube / podcast
- Expo
- Performances
- Community Radio – education

STEP 7: REFLECT

Essence Statements from Group A and B

In a nutshell, Step 7 (Reflect), is where…
- *"…SAP is captured, analysed and reflected upon with a view to future direction."*
- *"…Experiences and observations from SAPs are used to determine future action for sustainability."*

Ideas and Examples for ***Reflecting***
- Committee – smaller group to reflect
- Record
- Reflection from school community and wider
- Experiences
- Research
- P.M.I. (Plus Minus Interesting)
- Look at relevance / best practice
- Questionnaire
- Future suggestions / plans / recommendations
- Where to from here?
- Summary / Concept Map
- Capture the journey
- Positive feedback cycle
- Student feedback on the process
- Positives / negatives

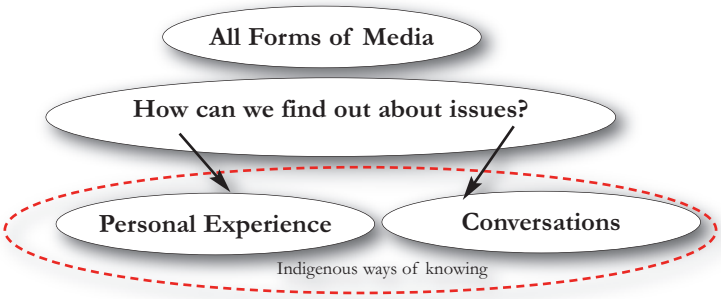
Photo by Jess. Bollie (Greening Australia)

MODELS USED IN THE WORKSHOP

Below are two models used in the SAPs workshop:
- **Model 1 (Ways of Knowing) informs the first step of the SAP - the Finding Out phase.**
- **Model 2 is the Sustainability Action Projects (SAP) Model.**

MODEL 1 - Ways of Knowing

The ***Ways of Knowing*** model has been developed to underline the importance of a multi-sensory approach to enabling students to investigate or find out about issues. When planning educational programs (such as a SAP), teachers can use the ***Ways Of Knowing*** model to ensure that students find out about the issue in as many ways as possible. In this way students will be much more likely to make a meaningful connection to a particular issue, having 1) **experienced it personally** by visiting the setting / site; 2) having had **conversations** with those people affected by the issue, and; 3) having **researched** and **measured** the issue, using **all forms** of media (e.g. internet, books, magazines, newspapers, television, radio, surveys, audits). This meaningful connection then leads to increased motivation to take action to address the issue.



MODEL 2 – Sustainability Action Projects (SAP)

1. Find Out (Experiences, Conversations, Research)
2. Plan for Action
3. Spread the Word
4. Take Action
5. Monitor & evaluate
6. Celebrate
7. Reflect

Model applied to Critical Action Question: **"How can we make the world a better place?"**

FURTHER READING

- I.S.O. 14001 (International Organisation for Standardisation) environmental management system.
- Sobel, David 1996, *Beyond Ecophobia*, The Orion Society
- For further lists of great sustainability ideas/examples using the SAPs model visit: http://www.outdooreducationaustralia.org.au/conferences/2007/Mangelsdorf_NOEC_2007.pdf
- For information about AuSSI Vic and comprehensive sustainability resources for schools visit http://sustainability.ceres.org.au

Anthony Mangelsdorf is the Geelong Regional facilitator for the Australian Sustainable Schools Initiative Victoria (AuSSI Vic) for CERES Community Environment Park. Bushwalking in the Wonnangatta-Moroka NP as a secondary student developed into a passion for the environment, and for living sustainably on the planet. Chasing ways to pursue this passion professionally has led to study and work in architecture, facilitation, outdoor education, design and technology education, environmental education and local community sustainability. For further information about the SAPs approach contact - anthony@ceres.org.au.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