Welcome to Issue Two of Curriculum Matters 2002. This issue focuses on the key learning areas of Science and SOSE. In March teachers were able to attend SOSE week – Building a Sustainable Curriculum at the Toohey Forest Environmental Education Centre, Griffith University. Participants were able to attend workshops and lectures by presenters from the local and national arenas while enjoying the unique bushland environment. Four presenters from our local schools who presented at SOSE week have provided overviews of their workshops for this issue. They are Ray Brown from St Oliver Plunkett School, Cannon Hill; Anne Chambers and Rob Charlton from Stella Maris, Maroochydore and Michael Boyle from St John Fisher College, Bracken Ridge.

Attendees at SOSE week were able to realise the multidisciplinary approach that Environmental Studies offer. This approach has been used at St Mary’s Beaudesert where study of the local environment has spanned across many Key Learning Areas including Science, SOSE, Maths and English.

This year is shaping up to be one with great opportunities for teachers to take part in exciting Science activities. In this issue, Kathy Harris and Shelley Peers describe many of the science events on offer this year.

Finally, Michael Harkin reports on how the Touch the Future course for teachers is going and discusses what future directions this course might take.

The next edition of Curriculum Matters, due out in Term 3, will have a Literacy and Numeracy Focus which will coincide with the Literacy and Numeracy Conference – Planning for Diversity (September 23 – 25) organised by Brisbane Catholic Education. Any articles relating to the Literacy and Numeracy focus may be emailed to bbarker@bne.catholic.edu.au.
Teachers at St Mary’s Beaudesert have developed an exciting range of activities for their students based on studies of their local environment as well as taking a global view of environmental issues. The St Mary’s Science Co-ordinator, believes that Environmental Studies not only offers an integrated approach towards learning about our environment in schools, but provides a starting point for students based on experiences that focus on the children’s local environment. This practical element of learning allows children’s learning to be meaningful and purposeful. Instead of treating each Key Learning Area separately, approaching Environmental Studies this way has allowed teachers to design integrated units using Science, SOSE, English and Maths.

Teachers have utilised a number of external resources to enhance their programs. The Queensland University of Technology’s Extreme Science Van offers children the opportunity to use its 15 high quality, large microscopes to observe objects gathered from their school and local environments. Specimens can be placed directly under the microscope, thus eliminating the necessity to prepare slides.

The Urban Forest Kit available from the Queensland Museum is an ideal introduction to generate interest in tree related units such as The Rainforest. It comprises four very large boxes containing the following components: interlocking pieces to construct a large tree, a variety of tree dependent creatures, safely encased in perspex and a selection of laminated, pressed leaves (all of which can be velcroed to the tree), a large floor game designed to develop an awareness of the many factors to be considered before planting a tree as well as charts, books and teachers notes. The tree was erected in the centre of the library, which made it available for use by multiple classes.

In an attempt to entice butterflies to the school grounds, Bianca Cause and her Year Four class sought help from the Greening Australia Nursery, Downfall Creek Bushland Centre and the local Beaudesert Shire Council to research local butterflies and their needs. Using the website www.gould.edu.au, a butterfly garden was designed. Stage One is now flourishing while the Stage Two planting is planned for later this year. The habitat will provide practical opportunities for students to observe the life cycle of a butterfly.

An integral part of Year Three’s Splish, Splash, Splish Unit involves a visit to a nearby waterway to observe freshwater pond life. Children construct their own dipping nets from wire coat hangers and stockings. They are able to gather live specimens to observe with hand lenses, then identify, record and return them to the pond. This year, because of the extremely dry conditions, the pond was in immediate danger of drying up. The children embarked on a rescue mission to save the frogs by collecting the spawn and raising the frogs at school. As a result, the children are creating a frog friendly habitat. Whizzy the Waterdrop Kits One and Two complement the unit and are a valuable resource to introduce the water cycle and to prepare the children for their visit to the local water treatment works to observe the process of cleaning water for human consumption.

In Term One, our Year Six and Seven students studied recycling as part of their Health/Science unit. To demonstrate their understanding of recycling, the students created posters outlining the recycling issues and the effects the recyclable material has on the environment. They were encouraged to use persuasive language, positive imagery and to be original.
Thirty-three BCE primary school teachers participated in two
days of professional development in science for National
Science Week, 2002 during Term Two.

Many teachers commented on how great it was to have time
to talk and plan with others and have a break from the busy
daily schedule in the classroom. They came to the two days of
workshops from as far as Childers and the Gold Coast.

The purpose of the experience was to deepen the teachers’
understanding of the Years 1-10 Science Syllabus and plan a
unit of work for their classes with a focus on Science in the
Bush, the National Science Week theme for schools this year.
The workshops were designed for teachers who had not had
many opportunities to engage in professional development
of the science syllabus.

There was a lot to do, with teachers moving from the Mt.
Coot-tha Botanic Gardens on Day One to the O’Shea Centre
at Wilston on Day Two. The days were repeated so that two
groups had an opportunity to participate.

For both groups, Day 1 was pleasantly warm and sunny –
perfect for taking a walk in the Botanic Gardens at Mt. Coot-
tha. The teachers experienced a ‘Lesson in the Gardens’ with
Julie, an education officer at the Gardens. Her obvious
enthusiasm for the environment was second only to Steve
Irwin’s love of crocodiles!

Julie described interactions in the terrestrial and aquatic
environments of the Gardens, using examples from the
lagoon and its surroundings. We were warned to ‘never
underestimate the drawing power of water for children’ and
we could certainly see why.

The lagoon was beautiful in the afternoon sunlight;
dragonflies hovered over pink flowered Water lilies and
Moorhens dived ‘bottoms up’ for food.

A couple of teachers were surprised by a large water dragon
sitting right at their feet, cleverly camouflaged and calmly
sunning itself on a rock!

Julie encouraged us to think about how important plants are
to our existence, as all food webs begin with a plant. The
teachers participated in a ‘Woolly Web’ activity that helped
them to consider the relationship between plants and animals
in the environment.

There was also time to use our senses to observe our
surroundings and gather information about interactions on
land and in the water.

A wonderful sensory garden leads down to the lagoon. The
teachers were encouraged to smell, touch and taste a variety
of plants. The Japanese Mint was a big hit with those who
suffer from hay fever. Some teachers slowed down to a stroll
so they could sniff and rub their way through the beds!
Day Two had the two groups of teachers logging on to the Internet with school LinCS laptops. The teachers spent the morning looking at environmental science websites and tracking them using 'Trackstar.' The benefit of tracking websites is that children can type in an ID number (which the teachers received when their tracks were created) and access the chosen group of websites from home or the library or classroom and use the teacher-created annotations to learn from the websites.

The rest of Day 2 was spent collaboratively planning a Science unit, taking into account the emphases of the Years 1 to 10 Science Syllabus. Most of the units focused on the 3 Key Concepts from the Life and Living strand.

- The characteristics of an organism and its functioning are interrelated.
- Evolutionary processes have given rise to a diversity of living things, which can be grouped according to their characteristics.
- Environments are dynamic and have living and non-living components, which interact.

The units can be found on the common drive: (Curriculum/KLAs/Science/Primary units to share/Science in the Bush).

For more information on the Lessons in the Gardens program, contact the Visitors Services Coordinator on (07) 3403 2535.

**News Release**

Access Ed has advised us of opportunities for schools to visit the new Port of Brisbane Visitor’s Centre. Schools will be able to organize study tours to research, observe and report on activities undertaken at the Port.

Teachers organizing study tours to the Port of Brisbane at Fisherman Islands will be excited to find a new Visitor’s Centre available for their use. The Port of Brisbane provides an interesting and exciting destination for student groups undertaking study tours to research, observe, record and report on the activities encountered in a modern port.

A port visit has curriculum application across a wide range of disciplines. There is ample opportunity to address a number of key concepts in the themes of Time, Continuity and Change; Place and Space and in Systems Resources and Power within the Studies of Society and Environment curriculum.

The emphasis being placed on making the Port of Brisbane, Australia’s “Green Port” provides significant potential to incorporate environmental studies into a visit.

Use of the Visitor’s Centre and port tour provides an ideal way to bring these studies to life.

Schools using the facilities will be provided with a worksheet designed to engage students in the display and with what they see on the port tour. Three worksheets designed for lower-middle primary, middle-upper primary and lower secondary are available for use.

Designed as an environmentally sensitive building, the Visitor’s Centre contains an open display area, seminar room and a 100-seat theatrette with large screen video projection, cafe, restaurant and covered outdoor teaching/eating area.

The display covers all aspects of the port operations including the major movement of commodities, dredging, environmental management, historical development of the port and the various goods handling techniques, shipping and tug operation and quarantine. Some of the display modules are designed to allow for visitor interaction including one that highlights the environmental management initiatives of the Port of Brisbane Corporation.

The traditional tour of the port facilities undertaken by so many schools in the past remains a key element of the visit. Students observe the major commodities moving through the port, the range of transport and goods handling equipment, various stevedoring operations and storage facilities.

Schools wishing to organize an accompanied tour of the port should pre-book their tour by Web site (www.portbris.com.au/visitorscentre) or by contacting Peter Firth on 0419 743 751 or Rosie Field on (07) 32584786. Visitors need to provide their own transport and allow a minimum of 1.5 hours for their visit.

The Centre is open to the public, Monday to Friday from 9.00 am to 4.00 pm, making this a suitable destination for parents to take students to during their school holidays.

Student Voice at Stella Maris
by Anne Chambers and Rob Charlton: Stella Maris School, Maroochydore

We have a teaching colleague who espouses a strong belief in the saying, “Look after the little things, and the big things will take care of themselves.” Such a simple credo has ensured the success of the leadership program at Stella Maris Catholic Primary School. Ken Kiernan believes that if you support children, encourage them, let them know that you believe in their ideas and thoughts, be honest with them, allow them to be actively involved and have a genuine voice – then you help in the formation of young adults who have a sense of purpose and place in our world. In 1995 Ken Kiernan, Ingrid Clarke and (the late) Joy Hunter had a vision for citizenship and Middle Years pedagogy that endures, develops and lives at Stella Maris. Importantly, it was endorsed and actively supported by the administrative team of the time, Trevor Doyle and John O’Leary. This insightful group of professionals were dedicated to ‘taking care of the little things.’

Stella Maris Catholic Primary School at Maroochydore caters for around 800 students. The Year Seven students are an integral factor to the morale, tenor and atmosphere of the school. There are three Year Seven classes catering for 96 children who are all directly involved in the Leadership program.

Continuous structures in place are Year 7 Parliament, Community Leadership program, Awards program, Negotiated curriculum models and Philosophy for Children programs. Each of these aspects endeavours to create a genuine space for democratic voice and student participation. They offer authentic structures for involvement, action and curriculum. More importantly, it seems to work!

Student Voice in the School

Stella Maris Parliament

Parliament started in 1995, by the Year 7 team at the time: Ken Kiernan, Ingrid Clarke and Joy Hunter. They established a participatory model (rather than an adversarial one) that allows both the Government and Opposition sides of Parliament to organise and propose bills. Children nominate themselves into a committee of interest. The committees are:

*The Service Committee (Government and Opposition) is responsible for organising community based project activity within the school. Their responsibilities include Jeans for Genes Day, Daffodil Day, World’s Greatest Shave and Dare for Leukaemia.*

*The Welfare Committee is responsible for maintaining school morale. They often organise lunch time activities for students including talent quests, treasure hunts, painting activities and discos. This group is currently painting the school tuckshop with paint donated by a Year Seven father. Another mother has helped with the graphic design.*

*The Environment Committee is responsible for environmental issues around the school and for community projects awareness raising which include Clean Up Australia Day and Greening Australia. In the past, this committee has returfed the soccer ovals at our school as well as building and rebarking the front gardens. This committee has a small budget. The school administration and the P&F support projects requiring financial backing.*

*The Sports Committee organises lunch time sporting activities for the different grades. They are obstacle courses, soccer and netball games and students versus teachers games.*

*The Class Reps Committee assigns themselves to grade levels in pairs. Each pair visits their year level classes once a week to check in with the student body. These children are often the link between the student body and the Parliament. They can advocate for ideas and interests expressed by a grade level by both approaching a specific committee and asking them to organise an activity or they can organise it themselves.*

*The Public Relations Committee is filled by the four School Captains and two Year 7 Captains, all preferentially and student elected, as well as any other interested students. They are responsible for parliamentary Hansard records and for marketing the school’s profile in the wider community. They can organise media coverage for events or write to particular people requesting or thanking them for support.*

The first five committees have both Government and Opposition sides. Both sides can develop ideas and propose bills to Parliament and committee members take turns in speaking.
Children vote on the organisation of the bill (its structures, mode of promotion, timing, organised teacher supervision, or workplace health and safety credibility) rather than whether or not the idea appeals to them personally. The Year 7 teachers supervise activities organised through Parliament as part of our duty roster. Available lunch times must be tentatively booked with one of the Year 7 teachers before proposing the bill. If the bill is then passed in Parliament, this becomes a commitment to the children. Committees sometimes choose to propose joint bills for larger projects.

Parliament sits once a week and is chaired by one of two student-elected Year 7 Captains (Speakers of the House). The two Speakers alternate each week. They follow a set procedure and script that allows for Report Time, Bill Proposals, Question Time and parliamentary voting.

Other roles of Prime Minister, Opposition Leader, Sergeant at Arms and Clerk are teacher appointed positions. The Prime Minister and Opposition Leader alternate each week in presenting Year 7 achievements and birthdays during Report Time. The Sergeant at Arms processes into Parliament with the mace and is in control of behaviour. The committees must approach the Clerk, prior to a sitting of Parliament, to be registered on the agenda for reports or bill proposals.

Our current Principal, Mr Russell Sinclair, continues in the role of Governor-General. Once a bill has been passed in Parliament, it is then taken to the Governor-General for assent. Once signed, the bills are returned to the relevant committees and enacted. When available a member of our school's administrative team, Principal Russell Sinclair, Assistant Principal Steven Coolican or APRE Ingrid Clarke, comes to Parliament.

Parliament officially closes on the night before school breaks up for summer holidays. This function is held off campus and parents are invited. Committees report on their achievements and a dinner and celebration follows.

Community Leadership Program

There are two dimensions to this facet; a curriculum focus and a service focus. The curriculum focus begins with an overnight leadership camp early in Term One. This camp focuses on team building, problem solving and communication skills. Creativity and risk taking are also features. The preferential voting system is also explained in depth.

The day we return from camp, nominations for elected positions (School and Sports captains) are called. The ballot paper is prepared and the children vote the following day. Year 7 teachers count the votes and the results are taken to the principal. The results of the elections are announced after the Parish Priest has been contacted.

All children are regarded, treated and acknowledged as leaders. Every single child physically wears a ‘School Leader’ badge which is presented at a ‘Leaders Induction’ school assembly. Parents are also invited to attend.

The children complete a special unit of work on leadership styles during Term One. This unit was developed by John Parkinson, APRE (1998 - 2001) and a team of Stella Maris teachers. It focuses on Kevin Treston's models of leadership and is adapted for children. By the end of the unit, the students grow in self-reflection and in understanding their strengths as they can identify the model that is most like them.

The focus of all Term One work is on leadership and democratic models. We study political systems, visit Queensland Parliament House and Boggo Road Gaol and normally meet with our State and Federal members.

The service focus includes ongoing structures as part of our daily functions within the school. Year 7 students are partnered with Year 1 buddies and are integral in the orientation of these children into our community. This association continues for the whole school year. The Year 7's also run the weekly school assemblies and act as assistant personnel for the Year 1 Perceptual Motor Program in the school.

Awards Program

The Awards Program runs parallel to Parliament. This is an individual program which provides a framework for additional involvement and recognition in the school. Points are awarded
progressively throughout the year for participation in four separate areas of school culture. The four areas are: Community Service – working in the library, preschool, tuckshop and at the school fete; Academic – attitude and effort in work, entering in to outside academic competitions and eisteddfods; Sports – representing the school in sports, or achieving excellence in some sporting endeavour, attitude and effort during fitness training and competing in school sports carnivals and Cultural – participating in the school choir, eisteddfods, instrumental study or theatre work.

The Awards page stays in the child’s portfolio and is updated as necessary. Children endeavour to accrue 100 points in each of these categories. Students are presented with pennants acknowledging their effort and success on the evening when Parliament is closed.

**Student Voice in the Classroom**

**Negotiated Curriculum Models**

Children are encouraged to be actively involved in their learning too. Early in the year we revisit the work of DeBono (six hats and CoRT thinking), Gardner’s Multiple Intelligences and Bloom’s Taxonomy. We also look at the dynamics of co-operative learning (Bellanca and Fogarty) and associated interpersonal skills.

Children frequently design their own projects of study within units of work. These can utilise both individualised or collaborative work styles. Units begin with orientating activities where the main objectives, concepts or outcomes of the unit are highlighted. Under this broad umbrella of context, students are then invited to select or develop particular topics of consequential or lateral personal relevance. Once a field of interest is nominated, the students complete a metacognitive log of current knowledge and investigative curiosity. They then begin to plan their study by designing tasks using Bloom structured verb prompts, for example, acknowledge, explain, design and critique. They attempt to predict suitable sources of information and plan a work strategy. Student investigations then begin in earnest. The children are empowered to redefine, develop, adapt or abandon their topics as necessary as ownership of the work sits with the student.

Students negotiate their format for presentation of newly acquired knowledge. Reflective logs are also completed as realisations and cognitive enhancements are achieved. Negotiated rubrics for assessment are becoming an increasingly important part of these investigations. During this process, teachers act as support personnel, investigation advisors and planning assistants. Cross curricular or multi-discipline studies are also encouraged. This framework fits with the National Middle Schools Association (2001) ideas for involving children in curriculum planning.

**Philosophy for Children**

In recent years, philosophy for children has also been incorporated into Year 7 classrooms. This socially constructivist approach helps the students to question, explore, develop and defend their opinions and understandings of the world around them. Communities of inquiry (Lipman, Sharp & Oscanyan, 1980) allow collaborative adventures into the cognitive world of thought and reason. We often use literature studies and class novels, connected to our current unit of work as a springboard for philosophical discussions. Philosophical discussion provides opportunities for student voice, reasoned discussion and oral communication skills to be enhanced. Personal reference systems can also be explored.

**‘Taking care of the little things.’**

Stella Maris’ programme is focused on the ‘little things’ – giving young adolescents a sense of community and a platform for voice, supporting them, believing in their abilities and ideas, being honest with them and engaging them in purposeful and legitimate learning experiences.

As the saying goes... ‘from little things, big things grow.’ Other teachers have contributed to this project over time including Michelle Heather and Mary Johnson. Currently three other Catholic primary schools and at least one Education Queensland school on the coast have implemented Stella Maris’ parliamentary model. Over time, its value has been experienced and developed by a long line of professionals interested in the positive future of our students.

**References**


DeBono, E (1994) CoRT thinking 1-6, Hawker Brownlow, Melbourne

DeBono, E (1992) Six thinking hats for schools, Hawker Brownlow, Melbourne


Treston, K (1994) Following the Heart: Reflections on Leadership, Creation Enterprises, Brisbane
Promoting Active Student Participation Within A Primary Classroom

by Raymond Brown: St Oliver Plunkett Primary School, Cannon Hill, Brisbane

Recent school curriculum documents devoted to Science, Mathematics and Studies of Society and Environment call for a rethinking of pedagogical practices implemented within classrooms. This rethinking requires emphasis to be given to assisting student involvement in active investigation and effective communication. One pedagogical practice that assists students to actively collaborate in classroom learning is Collective Argumentation (Brown & Renshaw, 2000).

Collective Argumentation
Developed in local schools in Queensland, Collective Argumentation is based partially on the pioneering work of Miller (1987). Miller defined three interactive principles necessary for coordinating student involvement in the learning process. First, the ‘generalisability’ principle requires that students attempt to communicate their individual thinking about a task. Students may do this by drawing a diagram, creating a flow-chart, or re-writing the task in their own words. Second, the ‘objectivity’ principle requires that ideas relevant to a task can only be rejected through reference to past experience or logical reasoning. Students may do this by noting similarities and differences between students’ ideas and through explaining their ideas to a small group of peers. Third, ideas about a task which are contradictory to each other or that belong to mutually exclusive points of view must be resolved through group argument – the ‘consistency’ principle. Students achieve this by justifying why some ideas about a task are more appropriate than others and through providing reasons as to why certain ideas should be accepted or rejected by the group.

Brown and Renshaw extended Miller’s principles from the small group to the whole-class context by including a principle of ‘consensus’ and a principle of ‘recontextualisation’. Consensus requires that all members of the group understand the group’s approach to completing the task and that they can articulate elements of the group’s approach in their own words. If a member of the group does not understand, there is an obligation on that student to seek clarification, and a reciprocal obligation on the other group members to assist. Finally, the ‘recontextualisation’ principle involves students in presenting the group’s ideas about the task to the class for discussion and validation.

Communicating to class members outside the group, challenges students to rephrase ideas in terms familiar to the class, to defend their thinking, and, where necessary, to reassess the validity of their thinking. The whole-class phase of Collective Argumentation – recontextualisation and validation – is important for the progressive building of understanding over time and assists the teacher to create a sense of continuity in the students’ inquiry and ensure that the knowledge that is emerging in the classroom is congruent with that accepted by mature knowledge communities. The teacher may do this by rephrasing, paraphrasing, and re-representing the contributions of particular groups in the language of a particular discipline, draw connections between the work that is going on in the classroom and the work of a disciplinary community, and by modelling ways in which mature practitioners may go about approaching the task.

Collective Argumentation, therefore, creates diverse communicative spaces in the classroom where students have regular opportunities to represent, compare, explain, justify, agree about and validate their ideas. To ensure that students feel comfortable when participating in these communicative spaces, each Collective Argumentation class negotiates a classroom ‘Charter of Values’.

Negotiating Values of Participation
The negotiation process initially takes place over the first six weeks of the school year and is based on those practices which research has identified as characterising mature knowledge building communities. The social practices of a community, that is, the ways of knowing and doing privileged by the community, shape what individuals can say and do within that community. However, within the social institution of schooling there exist a variety of ‘social practices’ – the practices of subject disciplines as well as the practices through which students express their diverse linguistic and social selves. Hence, the practices of a classroom community need to foreground a variety of practices (restricted and identifiable forms of activities through which students may ventriloquate and thereby be shaped in what they say and do), without detaching the practices of the classroom from the real concerns of students’
life-worlds and experiences. If classroom learning is to promote understanding, rather than the accumulation of cold factual information, it must convey value imperatives that are compatible with students’ life-worlds and that promote productive learning relationships.

The values negotiated in the Collective Argumentation classroom reflect social virtues of engagement, courage, humility, honesty, restraint, persistence and affirmation, and together with the key word format (represent, compare, explain, justify, agree, validate) guide activity and participation in the classroom.

Activities students engage in to bring about the negotiation process.
From Day One of the school year, students work in groups using an unstructured problem solving approach to go about completing curriculum tasks. The children are permitted to sit where they like and with whom they wish in the classroom. However, when engaged in curriculum tasks, they are required to work in groups of two or three or four members. After a week or so of working in this arrangement the students are asked to use the Collective Argumentation ‘key’ word structure to design a poster displaying the 6 key words of Collective Argumentation. The poster is presented to the class for discussion.

During this session and over the next few days, students discuss their likes and dislikes of working in a group situation. The teacher orchestrates the whole class discussions guiding the students to name values that the class might adopt to assist the group learning process, that is, to represent individually; compare, explain and justify co-operatively; and to agree and validate collaboratively. The session culminates with the class choosing a poster to represent the Collective Argumentation ‘key’ word structure. Each ‘key’ word of Collective Argumentation forms a step of the ladder.

The teacher then presents the class with task two. Students use the Collective Argumentation ‘key’ word structure to decide on three values and the definitions that the class needs in order to learn from our Collective Argumentation sessions. The definitions must be in their own words. Each group’s values and their definitions are presented to the class for discussion and validation. As each group presents their values to the class, the teacher keeps a running record of the values mentioned by each group and their definitions of that value. Over time a list of values and their negotiated definitions begins to emerge. The class negotiated list of values would include respect, honesty, concentration, active listening, sharing, courage, participation, humility and wise restraint.

Every year each Collective Argumentation Class has designed its own Values of Responsibility and Co-operation Poster. This poster is important because it helps to remind students of the type of learning community that they are trying to become. Students then use the Collective Argumentation process to design a poster that can represent the class community for this year. The poster must contain the Title: ‘Values of Responsibility and Co-operation’ and display the values have been negotiated over the past few weeks.
During the week most groups have presented their ‘Values of Responsibility and Co-operation’ poster to the class. When we come to decide on which poster will represent our classroom community for this year, the following important points are considered: Our classroom is a learning community devoted to assisting each person to learn to their full potential; The words on the poster represent the values that we have negotiated over the last few weeks; Even though the poster will be beautifully coloured and displayed for all to see, it will never be finished. During the year we may negotiate other values that may be added to the poster and we may negotiate to remove some values from the poster. The poster is the class community’s it is not the possession of the group that is given the task of constructing it; and the poster is only meaningful when we connect its importance to our Collective Argumentation ‘key’ word structure.

The next task for students is to choose one of the values represented on the group’s Charter of Values Poster. Each student provides the class with examples of when that value became meaningful in our classroom. For example, in the past groups have shared the time when the value of humility became meaningful for them. One group in particular talked about the time they were making a mathematics presentation to the class and during their presentation they discovered that they had not answered the question the problem was asking. They gave an open description of how they felt during the presentation and of what the value of ‘humility’ felt like when they had to speak and act towards the class’s constructive criticism in ways that agreed with the class’s negotiated definition of ‘humility’. They finished their presentation by describing to the class ways in which they thought the value of ‘humility’ could assist their learning within the classroom community. Each group’s example is presented to the class for discussion and validation.

When this activity is completed the students then vote on which poster will represent their class community for the year. The negotiated class ‘Charter of Values’ is then presented to the school community at an assembly attended by the school administration, teachers, students and parents, and is given pride of place in the classroom in the form of the broader school community – ‘collaboration’. The way of life co-constructed and negotiated in the Collective Argumentation classroom has come, over time, to be called by others [administrators, teachers, children and parents] a reality of the life of the school – ‘culture’.

Collective Argumentation is only one of many possible ways and one of many different types of social scaffolds, that facilitate student involvement in active investigation and effective communication within the classroom. The purpose of this article is not to promote Collective Argumentation as the solution to all pedagogical challenges. Rather it is offered as a possible pedagogical approach that might be adapted and explored in various local communities of teachers and learners for the purpose of assisting students to view their involvement in classroom learning as being meaningful, and for the purpose of contributing to the sense of renewal and possibility within the school system.

**References**

Bereiter, C (1994) Implications of postmodernism for science, or, science as progressive discourse, *Educational Psychologist*, 29 (1), 3-12


Making the Links: SOSE and The Arts

by Michael Boyle, Social Science/Drama Co-ordinator: St John Fisher College

The publication of the 1-10 SOSE and Arts syllabuses provides schools with a unique opportunity to integrate learnings in both KLA’s to maximise student achievement. Through integrated planning, teachers may use the processes of the Arts to focus upon individual achievements, unique histories, cultures, processes and systems. The Arts, separately and in integration, can enrich student experience by fostering unique and significant skills and deep understandings.

The QSCC Arts syllabus is now available on the web and is set for formal release next semester. This syllabus, Queensland’s first Arts syllabus, is organised around five strands – Visual Arts, Music, Drama, Dance and Media. In each of these strands, learning outcomes are organised to describe the knowledge, skills, techniques, technologies and processes specific to that discipline. In all strands, the learning outcomes are interrelated, complementary and interactive. The order is not hierarchical and they should be considered together when planning for learning and assessment:

- **Dance** learning outcomes are organised in terms of choreographing, performing and appreciating.
- **Drama** learning outcomes are organised in terms of forming, presenting and responding.
- **Media** learning outcomes are organised in terms of constructing, producing and responding to meanings.
- **Music** learning outcomes are organised in terms of aurally and visually identifying and responding to, singing and playing, reading and writing music.

**Visual Arts** learning outcomes are organised in terms of making, displaying and appraising images and objects.

Within the SOSE syllabus, many of the topics available for study lend themselves very well to an Arts process. Environmental conflicts are particularly appropriate contexts. Students can role play the various interest groups who come together in community meetings, make documentaries of the environmental conflict, and make works of art concerning their ideal vision of the location which is the subject of the dispute. Legal processes are also appropriate. Using role plays, students can explore democratic and legal processes through conflict mediation and mock trials. Dance, Music and Visual Arts are particularly appropriate as vehicles for exploring culture and identity, especially when making links with Aboriginal and Torres Strait Islander communities. Through using Drama and Media, students are able to journey back in time to investigate civilisations, the contributions of individuals, and the reasons for continuities and change. Consequently, the Arts syllabus has the potential for excellent integration with SOSE in our primary and secondary schools.

In planning for integrated SOSE-Arts units of work, I offer the following suggestions:

- Plan for learning that does not reinforce stereotyped or generalised notions and builds on the students’ previous knowledge.
- Plan for a variety of learning styles.
- Stay true to the Art form in terms of its historical development and unique elements.
- Don’t simply make the Art product the highlight of the unit – concentrate upon the process of the Art form.
- Consult with professionals like teacher-librarians, artists and fellow teachers who will provide ideas concerning resources and activities.
- Use current and relevant material.
- Allow students to have time to immerse themselves in the issue/topic.
- Provide a way into the artistic process by exposing students to aesthetically charged material like stories, poems, music, newspaper clippings, art works etc.
- Include reflection as an integral part of the process because this is where students reveal their understandings of the learning.
- Consider manageable ways of recording the students’ demonstrations of learning outcomes.
- Don’t rush the process – allow for students to enjoy the moment and to discover the learning.

Making links between our syllabus documents can only enhance student learning and cater for a variety of learning styles within our classrooms.
Earth Charter
by Kathy Harris, Project Officer: Science (Primary)

One of the key values of the Years 1 to 10 Studies of Society and Environment Syllabus is ‘ecological and economic sustainability’. This makes explicit the need to educate for sustainability in our schools.

Brisbane was host to the 2001 Asia Pacific Earth Charter Conference. A diverse group of people from more than 19 countries registered to attend. At the opening ceremony Erna Witoelar, the Earth Charter Commissioner, explained “the entire consultative process elaborating The Earth Charter was a journey to bind a heterogeneous world toward a common future”. The director of the international education program for The Earth Charter Initiative, Brendan Mackey, will travel to Brisbane in May to be a presenter at the BCE Science and Religious Education day of the Same Journey, Different Pathways week. Brendan Mackey is a Reader in Ecology and Environmental Science at the Australian National University. His main area of research is the greenhouse problem and forest conservation. Those people registered for the day will be involved in a plenary session where Brendan will discuss the connections between RE and Science, they will also have the opportunity to participate in his workshop on ‘The role of the Earth Charter in education for a more just, sustainable and peaceful world – a case study in integrating different sources of knowing’.

Professor John Fien, from the Australian School of Environmental Studies at Griffith University, spoke in 2001 at the Asia Pacific Earth Charter Conference in Brisbane. He explained that there is a need to educate children to respect their environment in order to sustain them in life. He also described the environment in a holistic way, stating that it is more than just the biophysical world; it can be emotional and spiritual and incorporates political, social and cultural factors.

In Environmental Education (1996: 212) Fien states, “far too much of what is going on in schools under the guise of environmental education is in the form of nature study, outdoor education or ‘doom and gloom’ current affairs topics such as the greenhouse effect and the ozone layer. Little is being done to empower students to address the issues and resolve the problems”. Now, with the implementation of the SOSE syllabus, students have the opportunity to investigate “controversial and challenging issues” and to become “active participants in their world” (SOSE Syllabus: 1). The Science Syllabus also challenges students to “critically evaluate their own and others’ viewpoints and the impact of decisions on themselves, others and the environment” (Science Syllabus: 2). Teachers have become familiar with the Years 1 to 10 Science Syllabus since it’s first appearance in 1999 and are using it to plan learning experiences for students to investigate concepts and compare their own ideas with the current conceptions of scientists.

Environmental Education is a cross-curricular focus that has come a long way since Beverley O’Neil first used the term in Australia in 1970 (Gough: 5). It is one of the disciplines from which the SOSE Syllabus has drawn from to create the concepts and key values that underpin the key learning area. The key values of democratic process; social justice; ecological and environmental sustainability and peace are complementary to the principles of The Earth Charter.

The Earth Charter Australia website <http://eca.anu.edu.au/> reveals that the drafting of an Earth Charter was part of the unfinished business of the 1992 Rio Earth Summit. It is also states that The Earth Charter is “envisioned to serve as a universal code of conduct, based on fundamental values and principles that will guide people, communities, organisations and nations towards sustainable living”. With values including Ecological Integrity, Democracy, Non-violence and Peace it is akin to the SOSE Syllabus and could add richness to teaching and learning across KLAs. Science also has an important role to play in the exchange and application of knowledge on sustainability. It is one ‘way of knowing’ and can help students to reach a deeper understanding of the world (Science Syllabus: 1).

Teachers interested in learning more about sustainability will find a free multimedia teacher education program on the Internet. It is published by UNESCO and has 25 professional development modules that consist of readings and self guided tasks. It can be found at <http://unesco.org/education/tlsf/>.

The UNESCO Teaching and Learning for a SUSTAINABLE FUTURE multimedia professional development programme was a task designed in preparation for the World Summit on Sustainable Development (Rio + 10) to be held in 2002. The learning activities in it reflect a dynamic balance among four dimensions and principles that underlie a sustainable future, as seen in the diagram from UNESCO’s Teaching and Learning for a Sustainable Future CD ROM.

Our students live in a techno centric world, continually alienated from the natural environment, so they need opportunities to “consider the rights and responsibilities of present and future generations and species, create new...
visions, and optimistically enact strategies to realise preferred individual and collective futures” (SOSE Syllabus: 7). They should also be given opportunities to “cooperate with others in scientific investigations to achieve common goals and identify unjust and unsustainable practices and applications of science” (Science Syllabus: 3). Both the SOSE and Science Syllabuses, with The Earth Charter, create opportunities for learners to view their world in a holistic way and empower them to act now for a shared vision of the future.

References and further information
Earth Charter Australia website <http://eca.anu.edu.au/>
QSCC (1999) Years 1 to 10 Science Syllabus, Queensland School Curriculum Council, Brisbane
QSCC (2000) Years 1 to 10 Studies of Society and Environment, Queensland School Curriculum Council, Brisbane

Touch The Future
(if you dare!)

by Michael Harkin, Project Officer: Quality Teacher Program

Touch The Future is a six-day professional development program for experienced pre-school, primary and secondary teachers who have been teaching for at least ten years. The purpose of the program is to explore some important issues with which teachers grapple in their personal and professional lives but do not have the opportunity to explore in any depth owing to the ‘busyness’ of modern life. These issues are subjected to individual reflection and collective wisdom in a coherent and good-humoured futures framework.

In order to build on expertise within the educational communities in our schools, the explicit outcomes for participants in the program are designed to:

• Enable participants to reflect on their personal spirituality
• Provide the opportunity to improve skills, understandings and confidence in the teacher’s role
• Explore certain educational and curriculum issues, especially in personal spirituality, information communication technology, contemporary citizenship and science
• Examine the context of education through a variety of theoretical frameworks
• Provide models of contemporary pedagogy
• Invoke a rekindled sense of the joy of life and a refreshed enthusiasm for teaching as a profession,
• Assist the development of a futures-orientated attitude to education,

The program, which is recommended as (but not compulsorily) residential, is held at Riverglenn at Indooroopilly. It begins each day at 8.30am and concludes at 9.00pm on most days, although there are relaxation periods and built-in breaks. It is hoped in the course of the week to foster a sense of camaraderie among those taking part in Touch The Future so that participants can continue to offer one another support beyond the program itself. The program taps into participants’ considerable teaching and life experience and invites them to join each session in an active way, rather than as the passive recipients of information. It requires of participants personal expertise, an open mind and a sense of humour.

The program attracts ten credit points for an unspecified elective in the Master of Educational Leadership degree from the Australian Catholic University. Successful completion of the course will allow...
participants the opportunity to seek credit towards teaching (and teaching religion) in a Catholic school. Hence, it is important that the program provide appropriate intellectual and conceptual challenges in an educational context.

The theoretical framework of the program is based on Peter Senge's "Fifth Discipline" model of the learning organisation. This model supplies the ‘building-blocks’ of the program. The ‘mortar between the blocks’ is provided by the elements of a futures education. The program is challenging, yet ultimately affirming of what teachers do and understanding of the difficulties they face.

Participants receive a Reflective Journal outlining the program as well as a number of Readings and handouts that form the basis of the dialogue throughout the week. They are invited to use the journal interactively to enhance the activity-based nature of the learning involved.

Touch The Future, however, is not an arid intellectual exercise. Sprinkled liberally throughout the week are activities to keep participants on their toes. Look for Dan Flag and his alter ego as the abiding metaphor for the week, as well as some magic, prizes, pranks and bad jokes. Oh, and participants can expect to be set tasks somewhere in the week. There is no such thing as a free lunch!

The initial week-long Touch the Future is only the beginning. The single day follow-up workshop (the sixth day) will be held a few weeks after the initial program. It has the purpose of giving participants the opportunity to implement some of the ideas that were worked with and then debrief in a reflective atmosphere. The other teachers who took part will be considered as mentoring colleagues.

Hopefully, this will help teachers develop a futures perspective as a permanent element in their teaching.

During Term 3, 2002, Touch The Future will develop a dedicated area within the Brisbane Catholic Education website. Contained on the website could be a discussion list, chat rooms, online guest and professional readings. It is envisaged that school visits could be organised for participants to network and share experiences. As further Touch The Future programs are run, it may be possible to develop a much larger collaborative network of teachers to share teaching experiences and build progressively on one another's professional practice.

"Children are living messages we send to a time we will never see..."

As a later follow-up, some teachers may elect to plan with the coordinator of the program and/or other participants how to present some of the ideas in the program at the classroom level. The teachers can then look at the success of this process and modify the work accordingly.

It is anticipated that a refresher course Choose The Future for one day will supplement the work of the original program and participants will engage in shared practice. This would in a sense be a kind of 'reunion', and would be held some months after the initial program.

There were three trial programs run last year and owing to the success of the trial, there are three more programs this year. The first program in 2002 was run in April, the second is scheduled for late May and the third program will run in early August. Principals have been given information regarding the programs. Brisbane Catholic Education will meet all costs including food, accommodation and teacher replacement. Touch The Future is designed to be cost-neutral to schools.

Any teachers wanting further information regarding Touch The Future are referred to the Intranet and the school principal. The program coordinator is very willing to address any issues that interested teachers might have about the program.
The first Secondary Science Network Day for 2002 was held on 14 April attended by 23 teachers. The day included a session by Louise Haines on planning and monitoring using RM Curriculum Manager, a hands-on experience accessing Curriculum Exchange by Jane Connolly and a discussion on implementation plans for science.

The afternoon session was a site visit to the University of Queensland. Teachers were informed about current research in science fields and were updated about new and innovative courses being offered, such as Biomedical Engineering which is planned for introduction next year. Of significance was the blending of formerly distinctly separate fields where different faculties now operate in partnership to offer courses while each retains their separate faculty.

The final presentation for the day was by the Centre for Microscopy and Microanalysis. Dr Bronwyn Cribb and Mr Duncan Waddell presented their work and took us on a fascinating virtual visit to the scanning electron microscope laboratory in a nearby building through a real-time internet link-up. We were able to see full screen images generated from the microscope, and talk with the researcher there through Duncan equipped with a microphone headset. Images displayed were manipulated so that we could request any level of magnification. If you ever wondered why you were bitten at a BBQ and the person next to you wasn’t, we have now seen the sensory organs on the front legs of a midge where this amazing choice is determined. It uses this organ to sense things such as temperature, the levels of carbon dioxide and hormone levels!

It was exciting to hear about cutting edge science and hear the passion and enthusiasm of researchers and their commitment to education in science. This information will be useful to teachers in understanding current science related fields and in assisting students to plan possible career paths. It also highlighted for teachers the constantly changing nature of scientific endeavour.

The next Secondary Science Network Day will be held on 23 July 2002.