



Getting Through the 'Dark Ages'

NSW principal JOHN FREW discusses the brain development of adolescents and its impact on behaviour and learning.

FOR years psychiatrists and neurologists have known the importance of the first years of development in the make-up of a person's characteristics, behaviour, intelligences and resilience.

Many impressive experiments demonstrated this, with perhaps the most remarkable being the Abecedarian Project. This research, conducted by the University of North Carolina, in the USA, took a group of children whose mothers came from a low socio-economic background. Divided into two randomly selected Groups A and B, these children were provided with different outside supports. Group A received an intensive five-year project with supportive childcare and programmed activities that commenced soon after birth. Group B received free nappies and baby food. At the end of the program, the research showed that those children in Group A had an average IQ of 105 while Group B's average was 85.

The impact of this, and other similar research, captured the public's imagination.

Politicians soon responded to the advocate's advances, focusing in on early intervention being the only effective intervention.

As technology advanced, research on the early development of the brain became more sophisticated. It was soon established that there was a biological explosion of grey matter and myelin soon after birth. Neurons (grey matter) are capable of as many as 15,000 connections, so that, when combined, literally trillions of connections can take place. These connections are the foundations of learning, be it special, kinetic, social, emotional, musical, etc. They are created as a result of the brain's response to the electrical and chemical input from receptors that interface with the external world. Through trial and error, connections that result in the optimal response to stimulus are re-used, thus becoming stronger. When established, the myelin forms a sheath

around the neural pathways, increasing their efficiency. It is easy to take the logical step that, the more stimulus a child receives, the more connections are established and a higher IQ is achieved. It is assumed that this Pandora's Box was the way to overcoming social problems.

Unfortunately, nothing is as easy as we would like it to be. More recent work, by Perry (1995), van der Kolk (1995) and others have revealed subtle complexities to the broad theory that has had such a significant impact.

The Importance of Timing

For some brain functions, it is imperative that the child receives the stimulus at the right time. The brain appears to select times to develop certain behaviour functions by having the conditions, the grey matter and the myelin available in the areas the behaviours will be situated. It is crucial that the brain receive the stimulus at the right time. If there is no stimulus, then the function to be developed will not be cultivated. For example, if a child is born with cataracts on their eyes and they are not removed before about the eighth month, those children will not be able to successfully interpret sight, even if the cataracts are removed. Sight is the most spectacular example, and the easiest to demonstrate but other functions, such as communication and attachment, seem to need the stimulus at their specific developmental times to reach their full potential.

A second factor that must be considered is that the brain does not make value judgements nor does it see into the future. As a result, it develops behaviours that best suit the environment it finds itself in. This is fine if the child grows up in a family whose values and behaviours reflect those that are considered functional by society in general. However, many children grow up in families whose behaviours are considered dysfunctional to their contemporaries but are consistent within the immediate relatives.

Children will develop behaviours that function in their family. However, when they move out to situations, such as school, which reflect society's standards, they are unable to make their behaviours work.

Finally, it has been found that if children are subjected to continued, elevated stress, usually associated with trauma, following neglect or abuse, this will retard the development of the brain. It is suspected that the existence of cortisol, the chemical that assists the brain to return to a calm state is the cause of the impairment. Because the child is continually stressed, the cortisol continues to wash over the brain, causing damage. Children who are exposed to continual trauma have a real disability. To compound this, it is more often than not that these high stress environments are those in which the child learns dysfunctional behaviours.

Hope for Older Children

For educators in the upper primary/secondary school, this knowledge has a demoralising impact. The logical premise has been that, if the damage is done, there is little or nothing significant that can be achieved with interventions in later years. As a result, support facilities such as itinerant behaviour teams, adolescent psychiatric facilities and learning support teams have had their focus firmly aimed at lower primary. The only intervention for the secondary aged children has been to open behaviour-focused schools and units in which to dump these students.

There may well be an outcry that these units are not dumps but close examination shows that any underpinning approach for dealing with these children does not exist and there is no special qualification, nor prescribed pre-training in place. The majority of teachers are just willing and dedicated practitioners who 'learn as they go along'.

However, with the aid of new technologies, a team led by Dr Judith Rapoport (2004), of the United States National Institute of Mental Health, has recognised a new, second wave of brain growth. By following a group of 145 children over many years, her team identified another period of over-production of grey matter, and an accompanying increase in myelin.

That is, there is a second period of brain growth that coincides with puberty.

This second growth commences at about age 11 or 12. Boys generally lag behind girls, as they do for puberty. The growth is located in the frontal lobes, which are generally described as the executive of our brain, our CEO. It is in this area that we can decide on, or initiate, activities. We more easily plan goals, having the insight and judgement to anticipate consequences of our actions. The development of the frontal lobe, in early adolescence, is a second chance for our students to make a change in their behaviour.

Two Ten-Year Periods

Slywester (2004) puts forward the view that there are two ten-year periods of behaviour development for children. The first is when the child focuses on being a human. In this period they master movement, communication and basic social skills. The first four years are generally marked by clumsy attempts to imitate these skills. For instance, you see a baby first attempt to stand, to take a step, and then on to toddling. This phase is littered with falls and skinned knees. After a few years, you see the child refine the skill, going on to run, jump and dance.

The second ten-year development sees the child focus on becoming a productive, reproductive human. During this phase, they explore and acquire emotional commitment. They mature sexually and learn how they will express this and they discover those activities they

enjoy, which eventually leads to a vocational choice. Just like the first four years of early childhood, the years from 11 to 15 are marked by children's clumsy attempts to master the skills associated with a particular phase of development. In any secondary co-educational school, one can watch children in the junior years make their first attempts at forming relationships. Mistakes are made and pain is suffered. Mostly, this pain is psychological but mistakes in this phase can be much more serious. Teenage pregnancy is not such a rare event but the consequences can be life-long.

Management of the implications during this time are critical for schools if we are to have long-term benefits in learning.

Pre-pubescent children are commonly impulsive, with a desire for immediate gratification.

In a social context, any activity that carries with it a sense of intimacy has its response through a rapid reflex process, which is driven through the sub-cortical regions. Teachers of these ages maximise their teaching through direct instruction, short duration tasks and immediate rewards. Post-pubescent education should be characterised by self-directed learning, a sense of independence, with the self-responsibility that goes with it, as well as a focus on pursuing subject matters of their choice that lead into vocational preparation. This is the age when the frontal lobe is fully developed and, hopefully, decisions related to behaviour are considered and productive. A well developed, functioning frontal lobe carries out decisions on goal-setting, planning, judgement and insight that counters the childish impulsiveness that leads to so many regrets.

The change-over period, from the child to the adult, has that clumsy, awkward period during which the centre of emotional and social behaviour control moves from the limbic to frontal lobe. Yurgelum-Todd (2004), through studies of the brain scans of adolescents and adults, not only showed that the part of the brain used to identify emotions moves from the amygdala to the frontal lobe, but during this transfer the ability to recognise others' emotions drops profoundly. Her study showed that, at about age eleven, the ability to accurately recognise emotions dropped by 20%. When 93% of the emotional content of any conversation relies on cues, such as facial expression, body language and tone of voice, this loss has a dramatic impact on teenagers and, of course, those who raise or teach them.

Anyone who has taught or raised a teenager will understand the associated frustrations. Teenagers frequently look at you with confusion or no obvious remorse when you display your displeasure at something they have done. However, it may simply be because they just don't get the message.

Another finding around this awkward period is a profound vagueness that sets in. A parent may tell their child to drop their dirty clothes into the washing basket. They will agree to do so, but then it won't be done. The request is repeated and the parent's temperature rises. The child has heard the request but details like when it's supposed to be done, which clothes, etc., (things that are so obvious to us) may well be missed by the teenager. For teachers, when we set an assignment we make it clear, set it out in detail, and repeat the process. We are professionals - we know how to give instructions. But again, the thirty students will have very different interpretations of the task. It is frustrating and it's easy to take out our frustration on the students.

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Teaching in the 'Dark Ages'

The implications for teaching in what it is tempting to call the 'dark ages' from eleven to fifteen are considerable. During this time, social interactions are the dominant influence on behaviour. It is important that curriculum activities provide for the development of autonomous decision-making. The school needs an environment that allows the students to explore emotions in a non-threatening, play-like manner, where they can be confronted by adult problems without the potentially dangerous consequences.

Activities such as games, arts and the humanities are important because, unlike the concrete subjects of science and maths, issues can be explored. Through discussions and experience, emotional attention can be developed without the stress.

For schools, the challenge is to develop a greater flexibility in organisation, increasing the sophistication of the lessons' discussions and to expose the students to a rich diverse milieu of texts, guest speakers and class/school discussions. A perhaps more important task for the school is to control the external demands on measurable learning outcomes. Politicians and their upper level managers are comfortable with improved short-term outcomes. However, driving a teenager to regurgitate for the benefit of some test score is short-sighted.

Geidd (2002) perhaps sums up the challenge for teachers. The advice the scientist can give is just that which grandmothers have always known, '*spend loving quality time with our children*'. For the teacher, recognise that one size does not fit all; in any class there is a four-year gap in developmental age, regardless of chronological age. So cater for differences.

The teacher should move from a reliance on direct instruction to a more inclusive approach, where a variety of alternative methods are explored. They should support the students as they learn to access their frontal lobes. Don't say that this will happen but ask what do they think will happen. Then, with them, explore possible outcomes. They need your help in learning to connect present activity with future outcomes. As they grow, your contributions should diminish. Isn't that our goal as educators?

Another Chance for the Unfortunate

Behaviour management is always a challenge for teachers in early secondary schools. As mentioned earlier, children who have either suffered early neglect or persistent trauma and/or have been raised in environments that are dysfunctional by comparison to the school's standards, present as difficulties for all teachers. The second phase of brain development may well present another chance to help these unfortunate kids take control of their behaviour. With the shift of the emotional centre, from the direct stimulus of the amygdala to the frontal lobes, acting as a dampener to

the immediate impact of threatening situations, there is an opportunity to regain some of the early childhood losses. As so often happens for these children, the dysfunctional behaviours they have struggled with have the effect of alienating those who are most likely to help them.

It is an enormous ask for teachers to de-personalise those behaviours they find so offensive and stick with the students.

Do not ignore inappropriate behaviour; these children need to attract predictable consequences that are well known in the class. This is how new behaviours are developed. However, the behaviour must also be de-personalised. It is vital that the teacher has 100% rejection of inappropriate behaviour but, at the same time, a 100% acceptance of the child.

Finally, education policy makers should be aware of the implications of the onset of puberty. Just as it is in the early phase of development, the rich conditions of grey matter and myelin only last for the first four years of the developmental phase. The brain then prunes away the cells that have not been used at a rate of one per cent per year. It is crucial that the curriculum is rich and diverse.

The more music, sport, drama and art there are, along with academic lessons, the more likely it is that more connections will be 'hard-wired'.

The child will develop a capacity to act in ways that will enrich their lives. Unfortunately, it is almost universal that when policy makers and their political masters decide to make cuts in education, it is the arts, humanities and sports that are first to go. Reductions in these areas may well be a biological tragedy.

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ABOUT THE AUTHOR

Mr John R. Frew is Principal of Holsworthy High School, in NSW. He can be contacted by email at: John.Frew@det.nsw.edu.au.

NEW SOUTH WALES

STEADY progress continues to be made on the New South Wales Institute of Teachers. The charter of the Institute is to advance the status and standing of the teaching profession. The Institute will oversee a system of accreditation and recognition of teachers' professional capacity against professional standards. It will also provide a process for the profession to influence the quality of teacher training and continuing professional development.

Advice to the Institute on educational and professional matters will come from the soon-to-be-established Quality Teaching Council. This will be a body of 21 members, with a majority of practising teachers. Of the 21 members of the Quality Teaching Council, ten practising teachers will be elected by teachers and ten other members will be appointed by the Minister. The Institute's Chair will also be a member. Of the elected members, seven will come from government schools, including one secondary school principal and one primary school principal. At least two positions will be for teachers in rural schools. Two elected members will be from Catholic schools and there will be one elected member from independent schools.

The Department of Education and Training in New South Wales is undergoing yet another restructure. Smaller educational areas within regions are being established, along the lines of educational clusters that existed some time ago. Underlying the restructure is a new model for school accountability that requires School Education Directors (SEDs) to more closely monitor the performance of principals, thus smaller School Education Areas (SEAs). One of the major casualties of this restructure is the position of Principal Support Officer (PSO). Regionally-based PSO positions were designed to provide support and leadership development to principals and deputy principals.

The introduction of the positions was supported by sound research, which affirmed that principals seek support, and value that support, from practising, credible, experienced principal colleagues. Longitudinal survey data showed a steady increase in the number of principals seeking and valuing support from principal colleagues. The data also showed the support provided by district superintendents and directors did not meet the needs and expectations of an alarming number of principals. So, after just 25 weeks, this excellent initiative has been canned. One can only wonder why?

Dr G. W Wagener, Principal, Oak Flats High School, NSW
Email: grahame.wagener@det.nsw.edu.au

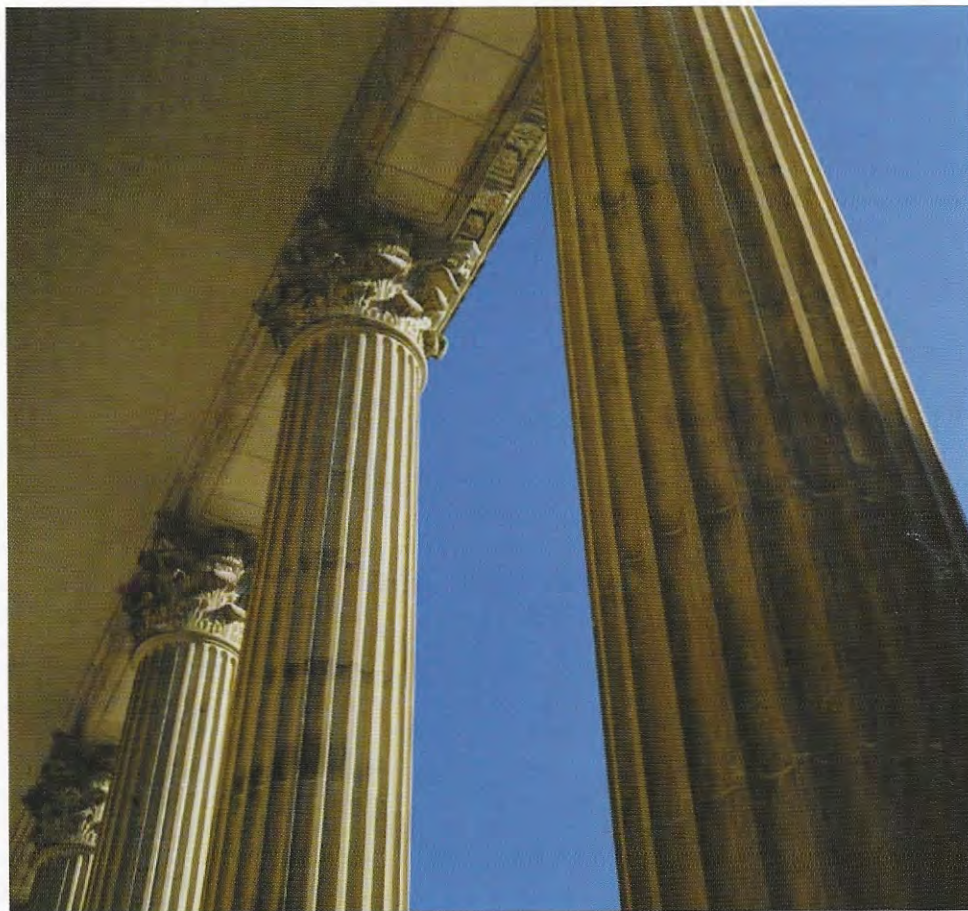
It's Time for Much Stronger Support

CHRISTINE CAWSEY reports on a NSWSPC analysis of the work of public secondary and central school leaders in NSW and calls for stronger systemic

DURING 2004 the New South Wales Secondary Principals' Council (NSWSPC) conducted groundbreaking analysis of the work of school leaders in the State's public secondary and central schools. The progress of that work has been regularly reported in *Principal Matters*.

secondary schools in their core business of educating young people. It also advised the structures for the NSW Department of Education and Training (DET) that would be required if the support was to be effective. The full paper contained examples of the work future school leaders would do and indicators that would be demonstrated by effective secondary principals. The following excerpt from the executive summary of the paper explains the framework more clearly.

EDUCATIONAL LEADERSHIP: The preferred role of the secondary principal and other secondary school leaders.



Educating students is the core business of schools, and educational leadership is at the heart of the role of school principals and other school leaders.

The primary purpose of educational leadership is to improve the academic and social outcomes of students, enhance the professional learning of staff and develop quality relationships with parents and the community. This form of leadership demands clear vision, collaboration and shared responsibility.

As a result, the NSWSPC conceptualises the preferred role of secondary principals, central school principals and other secondary school leaders as encompassing five dimensions of educational leadership.

Late last year a final white paper was published (1). This established a strong mandate for educational leadership and an even stronger mandate for a school and systems structure that would support it. The paper argued for a more interdependent policy-making culture in NSW education; one that would actually support

Principals and other school leaders in NSW public secondary and central schools, with the support of DET and the school community, will:

1. be responsible for maximising the educational outcomes of all students, to create and sustain

cultures of success, learning and achievement, underpinned by a positive values framework;

2. lead and be responsible for the design and implementation of the school's curriculum, assessment, teaching and learning programs, within agreed curriculum frameworks, to address the needs of particular student, staff and community contexts;
3. sustain strong educational leadership and effective professional learning and development to strengthen and support the profession within and beyond the school.
4. lead, and be responsible for, recognising and building student and school capacity to develop strong community relationships and position public secondary and central schools as the preferred choice for the twenty-first century; and,
5. lead, and be responsible for, the planning, organisation, management, administration, evaluation and accountability of the school, to accommodate diverse school-community contexts (NSWSPC, 2004).'

The paper was released during a period of considerable change to educational structures in NSW. The NSW Department of Education and Training was in the midst of a process of implementing a major restructure and had just released its own community consultation paper on the future of public education in NSW, *Excellence and Innovation* (NSW DET, 2004). The Government was also responding to findings from the Auditor-General, which had been released in September. These indicated that systems of school accountability needed to be more effective and contain information that was easier for parents and the community to access and understand.

Tension Between Two Roles

The tension between the site management and educational leadership roles of principals was a source of ongoing discussion among principals in NSW. This tension was evident in Victoria, with the release of *The Privilege and The Price* (Victorian Department of Education and Training, 2004), a report on the implications of the workload and work distribution of the Principal Class in Victorian schools.

It seems that, in both States, the volume of work and the demands of 'administrivia' have had an increasing impact on the ability of school leaders to retain a strong and consistent focus on student learning.

The NSWSPC is now prepared to act, to ensure that NSW secondary school leaders have the time, resources

and support to 'get on with the job' of improving student outcomes in the many different secondary contexts of the schools in our State. The Council has made a series of recommendations that will be negotiated with the other partners in secondary education, and will develop a set of position papers to move the debate forward. In particular, the NSWSPC will speak for a principal and deputy principal role that centres on working with, and for, students, teachers and the school community.

In this context, Chris Bonnor, President of the NSWSPC, launched a scenario (2) that embodied some of the recommendations flowing from the white paper. In a light-hearted manner, he envisaged one day in the working life of 'Jane', the principal of a large secondary school in 2010. This is a summary of the scenario.

'Jane works hard but her work is highly focused. Wherever possible, Jane has ICT solutions to most administrative problems and has little paperwork with which to deal. She also has a bursar, a community liaison officer and a professional assistant to support the school and the principal's role. She is also able to determine a greater mix of staffing at school level under the 'Context Matters' staffing scheme. Cross-sectoral relationships are strong and there are agreed, co-operative protocols in the ways schools from all sectors can, and do, work together.'

This was one of two really significant initiatives introduced by the Government in 2007 – the other was the reduction of 20% in mandatory hours and prescribed content in all syllabuses in Years 7-12, acknowledging the value of deep learning over content coverage.

The number of DET compliance policies to which Jane must respond is more limited (and much reduced from the 1,000 or more of the early years of the decade), with many decisions now made at school and community level.

When Jane does have a new DET compliance policy to implement, there is a short but sophisticated just-in-time online course she can do. Even more useful is the importance placed on face-to-face networks with principal colleagues through the NSWSPC and the 'Leadership Institute', where there is time set aside for reflective practice and the study of new directions in learning and teaching.

Much of the material developed by principals, teachers and schools is available as interactive online presentations, shared within and between schools (thanks to the support role of the school's technology officers). This means that Jane and the teaching staff are much more effective in the design of curriculum, assessment and pedagogy. She is able to work in smart ways and concentrate on improving student performance in a range of academic and social dimensions.'

More Scenarios Expected

This scenario is only one of several that will emerge as position papers to support the white paper are developed. It is expected that the white paper will be modified by the ongoing conversation and consultation that is currently taking place about the future of NSW public schools. Whatever happens in the near future, the NSWSPC and its member principals are now in a much better position to be able to articulate the role they wish to have; a role that is based on the collective wisdom of over 300 principals. These are the principals who have had to manage within the uncertainty of the current role and DET structure and who can see a way to improve student outcomes by improving the definition, focus and quality of the role of the school leader, the DET and the NSWSPC.

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Notes

1. The full white paper and the report of the project are available on the NSWSPC website at: www.nswspc.org.au.

2. The scenario can be found in the report of the project on the NSWSPC website.

ABOUT THE AUTHOR

Ms Christine Cawsey is Principal of Rooty Hill High School, in NSW.

She co-ordinated the project described in this article for the NSWSPC. Ms Cawsey can be contacted by email at: christine.cawsey@det.nsw.edu.au.

Book Review

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'A Passion for Life'
Sydney: ABC Books

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PAUL Brock is well known to many Australian educators, especially NSW principals. Currently he is Director (Professional Learning) for the Department of Education and Training. Earlier in his career he was an education policy adviser in Canberra.

In his own words, Brock's book is '*an attempt to capture and communicate what counts in a life which has been, and continues to be lived, to the brim, when viewed through the particular perspective of suddenly being afflicted with Motor Neurone Disease*'. The book reveals a passion for life that probably goes part way to explaining Brock's amazing defiance of the three-to five-year sentence given to him by doctors seven years ago.

Right from the time Brock was diagnosed with Motor Neurone Disease, he started to write. The book that resulted is rich with references to personally significant literature, as well as Brock's own poetry. It reveals a wealth of life experience, and a mind that never slows down. In a personal touch, Brock shares his home life, inviting readers to meet those he is closest to.

Like many people, I confess to sometimes producing two versions of what I want to say: the spoken word and what I am prepared to put on paper. Paul Brock writes as he speaks, with candour and engagement. Most of all, he writes with passion.

This is a book about two battles. Sadly, the first has probably already been lost, at least for now. The fight for social equity is best expressed in Brock's excellent chapter on public education. '*The provision of high-quality equitably accessible public school education makes a profound contribution to the common good of Australian society, to the social capital of this nation*', he writes. This challenge is thrown out to everyone in public education and quite a few others, many of whom don't have

CHRIS BONNOR recommends that principal colleagues read a recently released book by respected NSW educationist, Paul Brock.

the capacity to listen. Brock and his like-minded contemporaries can be assured that history will not be kind to a generation of politicians who, through their education policies, have walked away from the Australia we value.

The second battle, a personal one that may not be won, is seen in remarkable defiance of his medical condition. Since Brock was diagnosed, he has become a staunch advocate for embryonic stem cell research, which he approaches from a moral and ethical perspective.

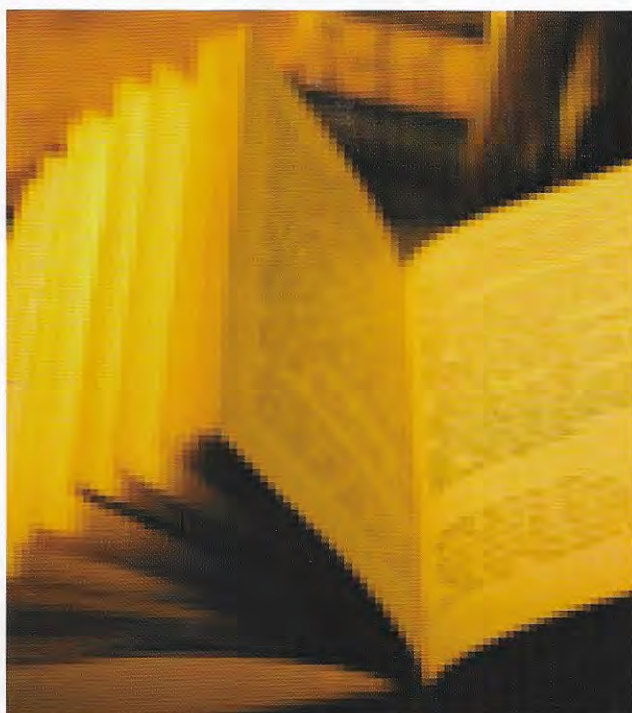
This battle took him to Canberra a couple of years ago, along with the NSW Premier and several others (including Christopher Reeve), to lobby MPs to include MND in spinal injury research.

Quite early in the book, Paul asks whether he has made a difference. He is not the only educator, of a generation committed to social justice, who has asked this question of themselves and their contemporaries.

Brocky, you have always been on the right path, and you need to know it, now! Thank you for transforming your passion into print for everyone to share.

ABOUT THE AUTHOR

Mr Chris Bonnor is President of the NSW Secondary Principals' Council. He can be contacted by email at: chris.bonner@det.nsw.edu.au



Australasian Principals' Update

New South Wales

IF THE ingredients for cultural change include a substantial change of cast, then it will be an interesting year for NSW. The year began with:

the Minister Andrew Refshauge becoming Treasurer and being replaced by Carmel Tebbutt, previously Minister for Community Services; Trevor Fletcher, the new Deputy Director-General (Schools) settled into his new role;

- a doubling of the number of school education directors, many being recent appointees; and, significant appointments, including three regional directors, from outside NSW.

These changes add an interesting new layer to the 2003-4 restructure, which saw the re-establishment of regions, accompanied by the rhetoric of shifting support closer to schools.

Trevor Fletcher seems determined to push through changes underpinned by the Michael Fullan's tri-level reform framework, aimed at having head office, regions and schools work in much closer alignment.

Principal Welfare

The shifting agenda is being illustrated by changes in the way in which the welfare of principals will be supported in future. Principals in other States might be aware of the work done by the NSWSPC in principal welfare, since replicated by ASPA. Amongst the achievements was the establishment of principal support officers in head office, as well as in each region. Despite the tone of a recent review, the regional positions have now been abolished and the support positions in

head office are being reshaped to become career positions, with a focus on development. The rationale is that principals in schools will receive much closer support from the increased number of school education directors. At best, the jury is still out on that line of reasoning.

Excellence and Innovation

Following a lead from the NSWSPC stretching back almost a decade, the NSW Department of Education and Training has completed a massive consultation process as part of its Excellence and Innovation futures project. The submission from the NSWSPC probably dwarfed most others, but the Council has two essential concerns:

- that it is nonsense for public education to review itself, when the inequities in the total landscape of publicly-funded schools are ignored; and,
- that the review and its recommendations will be diminished by a combination of bureaucratic caution and political intervention.

It won't be a dull year.

Mr Chris Bonnor, President, NSWSPC, New South Wales

Email: chris.bonnor@det.nsw.edu.au

Australian Principals' Update

New South Wales

NSW DET has completed a large scale consultation process as part of its *Excellence and Innovation* futures project. The NSWSPC submission addressed most of the questions raised but went further because it became apparent that not all the right questions were initially raised. Our Council has two fundamental concerns:

- that it is nonsense for public education to review itself when the inequities in relation to publicly-funded private schools are ignored;
- that the review and its recommendations will be diminished by a combination of bureaucratic caution and political intervention.

The excellent regional principal support structure we had in place for one year has now been abolished, despite the tone of a recent review. The support positions in head office are being reshaped to become career positions, with a focus on development as well as support. The rationale is that principals in schools will receive much closer support from the increased number of school education directors.

In our term one newsletter the President made reference to some motions which were passed unanimously at the State Assembly. You may be interested in reading them and getting a feel for some of the issues members regard as unanimously important.

- 'That the NSWSPC congratulates the DET on accepting the inclusion of the additional criterion about commitment to the values of public education in current merit selection processes, but would strongly recommend that there be a demonstrated

commitment to public education per se – through beliefs, behaviour and personal choices – and not just to its values.

- That the NSWSPC advise the DDG Schools (and Professor Fullan) that it would be desirable for Professor Michael Fullan to adjust his professional learning seminar program with principals to accommodate a specific NSW context:

- that NSW principals have very few opportunities to choose key leadership positions in their schools, such as deputy principals and head teachers;
- they have very few opportunities to choose classroom teachers;
- that the centralised staffing operation is focused on filling vacancies and cannot accommodate local needs or local priorities;
- that principals are responsible for all outputs and are responsible for very few inputs;
- that the restrictive 'improvement program' for 'inefficient' teachers gives principals no flexibility at all;
- that the removal of the ten Principal Support Officer positions for secondary schools in 2005 has made the role of the principal much more difficult in the climate of increasing accountability and supervision.'

*Dr Grahame Wagener,
Principal, Oak Flats High School, NSW
Email: gwagener@hotmail.com*

Student Choice: Igniting the Flame of Learning



Increasing student engagement in learning is a complex challenge faced by many schools. What's the best and fairest way to do this? Here's one school's solution to a global problem. Readers are invited to submit their own ideas for the next issue of the journal.

SOUTH Grafton High has developed a concept that has brought about major changes to student learning. This has been through the development of 'self-selected' classes. As governments spend millions of dollars developing programs that will improve learning outcomes, the South Grafton 'self-selected' concept will not cost the school even one cent.

South Grafton High is a comprehensive rural school with over 1,000 students. With its rowing sheds located on the Clarence River, it has gained excellence in winning the NSWCHS rowing championships five years in a row. Aiming for excellence was the new ethos of the school's mission statement, which was developed in 1997. This led to whole-school change and the development of the 'self-selected' classes.

The Concept of Self-Selection

The 'self-selected' classes are made up of students who are self-motivated, who wish to learn and are independent workers. Students select to join the class by written application. They also need to have demonstrated their ability to work independently and co-operatively, in small or large groups, with enthusiasm. 'Self-selected' classes can be subject-specific or, in Years 7 and 8, they may involve students who stay together for all subjects.

History and Implementation

The first 'self-selected' classes were trialed by Head Teacher, Brian Heath, in Science over a two-year period

in 1996-7. Brian was tired of teaching graded academic classes, which often included lazy talented students wasting their time and inhibiting the learning of others. He constructed a class where all students were enthusiastic about learning, irrespective of their academic ability.

'Self-selected' classes are not for elite students but, rather, for students who have a passion for learning. Students who are gifted can join, as can students who have been diagnosed as 'slow learners'. Brian asked students to apply to come into the first 'self-selected' class and found that the rate of learning was so fast, he could finish the mandatory requirements of the syllabus at least one term ahead of the usual time.

A new principal, Barry Bartley, arrived in 1997 and saw the benefits of Brian's teaching concept. He then set about incorporating the idea into the rest of the school community.

Barry wanted to start the 'self-selected' program at the beginning of Year 7. This meant a visit each one of the twelve feeder primary schools, to inform the students and primary teaching staff about the concept. Year 6 teachers were asked to supply data about their current students. Students, parents and teachers were given questionnaires to complete. The data collected included academic performance, leadership qualities, sport and performing arts ability, as well as computer and technology experience. The information, when returned to the school, was loaded onto a computer program that gave the South Grafton High School principal enough data to have an overview of the new students. The next step was to review their application for inclusion in a 'self-selected' class.

A Huge Demand

The demand to be included in a 'self-selected' class has been so great that in 2004 there were four classes formed at Year 7. Altogether, there were 195 students enrolled in Year 7 and 115 of them applied for entry into a 'self-selected' class. For the first time, the majority of students were applying for 'self-selected' classes.

Gathering Data

To gather information about the students' attitude in 'self-selected' classes, a survey was conducted. A questionnaire was sent to all 290 students involved in the program. The survey set out to see if the original ethos of the program was still working. Student motivation, work ethic and learning standard were the intended criteria for review.

The three subjects tested were English, Mathematics and Science. The students were asked to respond to the following questions.

- Do you enjoy being in a 'self-selected' class?
- Do you learn more in a 'self-selected' class than in other classes?
- Does the 'self-selected' class challenge your interests in the subject?
- Are members of the class more willing to work than in non-'self selected' classes?
- Would you recommend your 'self-selected' class to other students?
- Would you like to continue in this 'self-selected' class?

Summary

The large majority of students indicated that they were happy to be in a 'self-selected' class and were satisfied with the work challenge and also the work ethic of the class.

The final question gave an indicator for the success of the class. Less than 7% of students in Mathematics and less than 3% in Science and English indicated that they would not continue with the 'self-selected' program. The students in 'self-selected' classes were required to do more work because, when they completed the mandatory syllabus in less time, they had to return to each topic and extrapolate more information, showing an in-depth understanding of the concepts. To complete the work in greater depth, the students accepted that they would receive more homework and class work than other students. Many staff believed that the increased workload would frighten off many students. Instead, the number of classes has doubled in the past four years.

School Certificate Results

The outstanding indicator for the success of the 'self-selected' class came with the School Certificate results. A comparative analysis was done between the 'self-select' group of students and the remainder of the candidates. 'Self-selected' classes scored an average of 13.6 % marks above the other classes.

HSC Trends

When the first 'self-selected' students sat for the Higher School Certificate (HSC), there was a distinct difference in the percentage of students gaining UAls (University Admissions Index) over 90. A comparison of students who

achieved UAls over 90 from 1991-1997 was compared to those students from 1998-2003. The difference was an increase of 63.82% of students gaining UAls over 90. This demonstrated that a greater majority of students continued their work ethic from the middle school to the senior examination.

Transferability: Seven Steps

Will the program work in other schools? There are seven steps to be followed to install the 'self-selected' class program into your school.

1. Discussion with the whole staff about the overall concept and their willingness to teach these classes.
2. Advertising 'self-selected' class information evenings with parents of current and future students.
3. Defining 'where to start', that is, you may begin with a subject-specific approach or a whole-form or school approach.
4. Gathering data about the applicants and setting up an application process that is fair for all students.
5. Primary school visits to discuss the program with teachers and parents.
6. Defining the curriculum that will be taught and the extra workload that students will receive.
7. Selecting the volunteer teachers who wish to teach the 'self-selected' classes.

Other Benefits of the Program

There has been an increase of enrolments in Year 7 and our overall school numbers have increased. In 1997 we had 964 students enrolled. This number has steadily increased to 1,044 in 2003-4. South Grafton High School has attracted students from private and Catholic schools to take part in what parents, teachers and students believe is a wonderful learning environment.

Conclusion

The impact of 'self-selected' classes at South Grafton High has been significant in increasing student's enthusiasm to learn. Their self-motivated approach has improved learning outcomes in both the middle and senior school curriculum.

The 'self-selected' program is currently being trialed in a number of schools in NSW and Victoria. Delegations from South Grafton High went to each school by invitation to talk to the staff on the benefits of the program and to provide them with further background information. Please don't hesitate to phone either Principal Barry Bartley or Deputy Principal Brian Heath on (02)6642 1466 for further information on the program.

ABOUT THE AUTHOR

Mr Barry Bartley is Principal of South Grafton High School, in NSW. He can be contacted by email at: bartley@nor.com.au.

THE impact of severe dysfunctional behaviour in the classroom has long been identified as a major concern for teachers.

The search for the cause, and therefore a potential 'cure' for dysfunctional behaviour, has persistently been the focus of studies in psychiatry, psychology and related disciplines. For the pioneers in this field of work, the emotional content of thought was considered to be as influential as the cognitive functions. *'Both William James and Sigmund Freud thought and wrote brilliantly about the nature of emotions; about the possible mechanisms behind it and the ways it could be disturbed'* (Damasio, 1999).

Dominance of Cognitive Approach

However, despite this early acknowledgment of the importance of emotions, the attention of subsequent studies on behaviour focused almost exclusively on the cognitive influences that drive behaviour. In a period that has been dominated by Cartesian/Kantian intellectual dryness, emotion represented an illusive component of study. In an era when psychology was desperate to be accepted as a 'real' science, emotions proved too irrational for those who longed for academic acceptance.

Educators have now successfully accessed the psychological fields in relation to the acquisition of language, developmental age studies and, of course, behaviour disorders. In the latter case, it has been the cognitive approach to behaviour management that has provided the contemporary paradigm. Therefore, the methods for dealing with these behaviours have always been underpinned by cognitive approaches.

The result has been a plethora of behaviour modification programs that are used throughout education systems. In Australia and the USA, the most popular has been Glasser's *Choice Therapy* (1984), which relies on a child's access to the part of the brain that can make behaviour decisions with reference to the consequences

Emotions: The Neglected Path to Successful Learning



Recent developments in brain science explain why emotions are pivotal to successful teaching and learning.

of particular behaviour. This link between actions and consequences underpins these cognitive approaches. Despite an expansion and refinement of these programs, there has been no discernable reduction in the problems children with severe behaviour present in the modern classroom.

Impact of Personal Emotion

In recent times there has been a re-examination of the impact of personal emotion on behaviour. Neuroscientists have been at the forefront of this work. Joseph LeDoux (1998), from New York University,

has studied the impact of fear in animals and his findings have ignited a renewed interest in the emotional content of behaviour. LeDoux's studies have revealed a distinct separation between the emotional and cognitive modules within the brain. That is, there are two separate but parallel processes that drive behaviour and, depending on the emotional characteristic that is fired by a stimulus, one route will be dominant.

Reaction to fear is a reflex response to dangers that threaten the survival of life. When animals are faced with danger they immediately experience a physical reaction that prepares them for fight or flight. This response is instinctive and instant.

At some time in our evolutionary past, the human brain developed another module of activity that allows conscious thought. It is the different functions of these two systems of control that may provide a clearer understanding of the source of dysfunctional behaviours and perhaps provide better techniques in dealing with them.

Several Pathways

Any stimulation that enters the brain via our senses is distributed to those parts of the brain that have evolved to deal with them. They go first to the thalamus, then onto either the amygdala (housed in the limbic system) or the cortex, via the hippocampus, where it is considered and dealt with.

It is access to the amygdala that is crucial to survival. If the stimulus represents danger, the amygdala sends messages to the lower levels of the brain, where blood pressure and chemistry, muscle tone, breathing rates are instantly modified.

These physical changes provide different feeling sensations and, because they are associated with perceived danger, they constitute the emotion called fear. This body response is known as a general adaptive syndrome that prepares us for flight or fight. The response is fast and crude and precedes conscious thought. This process in the brain knows what is good or bad for us before we even 'know' what it is.

Building of Emotional Memories

The amygdala develops at an early age and, when it is activated, it institutes a memory in that part of the brain. These emotional memories are formed for stimulus that do not have to be understood by a conscious system. In fact, they are separated from the conscious mind.

The conscious mind develops later in a person's life. Initially, it develops in the hippocampus, which is not accessible until about age three, when the associated

synapses are myelinated. That is, the synapses that form to deal with various stimuli are encased with myelin and the pathways are established and protected.

The later onset of this rational function of the brain accounts for infantile amnesia. It explains why we have no cognitive memory of events in our very early childhood. However, we do have emotional memories for our infant years. It is the hippocampus that puts meaning to those events that previously only produced emotions. From this time, the distribution of a stimulus through the thalamus has a more accessible path to the hippocampus, and then on to the cortex. The brain has become conscious of the stimulus and can now place reason on it. The pathway to the hippocampus and cortex is slower and more refined than the pathway to the amygdala. This means that cognitive responses are not characterised by specific behaviours but are rather more complex and studied. It is this studied, rational response to stimulus that underpins cognitive approaches to contemporary behaviour modification programs.

Memory of the Emotion

The stimulus that reaches this conscious pathway provides another set of memories. These include a memory of the emotion that accompanied a fearful stimulus. However, critically, it is a memory of the emotion and not an emotional memory. This cognitive memory cannot instantly precipitate a flight/fight response; it has no direct access to the lower functions of the brain but it can provide a weaker, feedback stimulus to the amygdala. It is suspected that this feedback from a cognitive memory of a fear to the amygdala is at the root of more complex emotions, such as anxiety and despair.

So, it occurs that memories related to the emotional stimulation are located in two areas of the brain that are not directly related, yet share the same synaptic language. Cognitive memories are more explicit and access reason. It is here the memory of the emotion is to be found and a reasoned response can be accessed. However, the actual emotional memory is located in the amygdala and this will unconsciously fire a response in our lower order thinking without the same critical risk analysis. In a sense, it is the emotional memory that is the 'nature' side of our personal development and the conscious memory of the emotion that forms the nurture side of our personal history.

Creating our Sense of Self

How the brain draws on genes, emotional memories and experiences, coupled with cognitive memories, goes a long way to creating our sense of self. Children who have suffered abusive early childhoods will have an

intensely powerful emotional memory of fear and will be predisposed to react quickly to emotional stimuli (Frew, 2005). Their vulnerability to stress in later years forms a belief that they are inadequate. For example, when a damaged child finds himself or herself in a class of thirty students, his or her response to a stimulus may be so different from that of classmates that the child will interpret the difference as some kind of personal weakness.

The impact of frequent exposure to intensely stressful situations in early childhood is a key element in the development of students with severe behaviours. When these students are exposed to negative stress in their contemporary life, they access the emotional part of the brain, the amygdala, and the resulting behaviours focus on survival. I believe that this is the root cause of the majority of the dysfunctional behaviours facing classroom teachers.

Of course, there are students who have brain damage or defects, which place their behaviour outside this discussion.

The Impact of Trauma

The work of another group of neuroscientists (primarily of Perry, 1995, and van der Kolk, 1991) explains the impact that trauma can have on the development of the brain. Intense stressful stimulations break down the connection to the frontal lobes, thus limiting higher order thinking, shrinking the size of the hippocampus and 'strengthening' the functional quality of the amygdala (LeDoux 1998). The result for behaviour responses to stress is that:

- **critical risk assessment of behaviour is very limited;**
- **rational responses 'learned' in early childhood are the only ones available; and,**
- **the fight/flight response from the amygdala becomes more powerful.**

It is understood that the fearful response to stressful stimulation can be extinguished through the constant pairing of stimulus associated with fear and a situation where danger is not present. Eventually, the fear response will be neutralised. This is a popular approach to the treatment of fear-related phobias, for instance.

For example, a person who has a particular adverse response to seeing snakes can be treated by gradual and careful exposure to snakes in an environment where the danger is minimal. A similar outcome can be achieved by long-term therapeutic intervention. These approaches can bring response of the amygdala back to a base line response, which eliminates the debilitating impact of the snake stimulus. However, these interven-

tions do not eliminate the memory of the emotion; they only weaken it. These memories are in the cortex of the brain (LeDoux 1998).

For a teacher, the therapeutic approaches outlined above are not available. In poor socio-economic areas, where dysfunctional behaviours abound, there is little chance, anyway, that children will have access to these interventions. So, the teacher is left to face this problem without help. The only course of action is to control the environment with a view to minimising stress in the school.

Modern Day Threats

Schools rarely present situations that are threatening to the survival of the student. Therefore, it should follow that a fear response to danger would not be the driving force of dysfunctional behaviour. Regrettably, the advance in human control of the environment (i.e., the reduction of life threatening dangers) has coincided with the emergence of an individual's sense of self within a social setting.

In this social environment, exposure to danger includes psychological attack and/or rejection. Therefore the situations that will fire the amygdala-driven response include a person's interpretation of another's behaviour in regard to their own integrity.

Further, because the amygdala makes only rough interpretations, a child who historically experiences trauma from physical beatings, say from an angry adult male, will have an emotional memory that identifies anger in any male as a precursor to another beating. The fear response is strong and automatic and will be initiated before any cognitive memory can be accessed. Any critical analysis in the cortex is largely unavailable. The result will be an emotional response, to fight or flight, and the behaviour displayed will be a reflection of this.

For schools, with their current levels of psychological support, the only action that will have an impact on the levels of behaviour in the classroom and throughout the school is to attempt to control the social, emotional climate. For classroom teachers, this is a difficult task. Not only is their own behaviour likely to impact on a child's emotional stability, there are up to thirty other individuals who are able to trigger emotional responses in any individual student. Further, the teacher has no way of understanding each child's emotional history, and will have no idea of their unique triggers.

Emotional History of Teachers

Teachers also come to the classroom with their own emotional history. All too often, student attacks or rejections can evoke the teacher's emotional memories. Teachers can find themselves being driven by their own emotional history. As a result, their behaviour may well be fear-driven and devoid of cognitive judgment.

For the principal of a school, understanding the impact stress has is critical for the provision of effective pastoral care. Teachers on 'stress leave' related to their work are frequently suffering from the anxiety of dealing with behaviour disordered students. The emotional memory eventually becomes overwhelming and the teacher can no longer function at school. Prior to this total breakdown, many teachers remain at work suffering levels of anxiety that not only impact on their health. These stressed teachers also have a predisposition to react poorly when faced with ensuing behaviour problems, thus exacerbating their anxiety. This is a critical occupational health and safety issue that is not being addressed in any practical way at present and, in fact, is largely ignored.

To provide an environment that supports the emotional health of students and teachers, the following conditions must be present.

1. The interactions between all members of the school community must be predictable. Knowing what will happen as a result of any behaviour allows a sense of security to be developed.
2. The school should be accepting of the value of all members. The fear of rejection will instill an emotional response in students and teachers who have a history of rejection. Acceptance allows security. This does not mean there is acceptance of behaviours related to the abuse of others.
3. Students and teachers are protected from physical or psychological abuse.

Educational managers have long insisted on the provision of a safe and secure environment. They have a vague appreciation of the importance of this. However, there has been little pre or post-teacher training that has focused on complex issues that cause the breakdown of the school environment. Until this happens, schools will continue to struggle in their efforts to provide this. Managers are often attracted to simple, logical solutions, i.e., those associated with cognitive thought.

Unfortunately, the dismissal of emotional responses locks them into the same limiting approach that behaviour management techniques have always experienced. The schools therefore continue to struggle with the dysfunctional behaviours of students and teachers.

Emotional Management Vital

The provision of education is a school's core business. It is crucial for school leaders to understand the vital connection between learning and the emotions. There is an emotional link to what went on before in any learning situation. If the classroom environment produces a negative effect, that is, negative emotions are triggered, then that is likely to ignite a debilitating

anxiety that hinders future learning. Both students and teachers will look for environmental data that confirms their anxiety. Their subsequent reasoning will be, in a sense, bottom up: that is, searching for danger to their sense of self within the emotional memories lodged in the amygdala.

Our cognitive processes - perception, memory, thinking and decision-making - are housed in the hippocampus and the cortex. It is the access to our cognitive thoughts that allow the acquisition of new concepts and abstract analysis of these concepts. When we come to a classroom with a positive environment, we will be processing from a top-down position, with our cognitive brain available for the lesson. Under these conditions, real learning can take place.

Access to the Cognitive Brain

So it is clear that it is access to the cognitive brain that is crucial for learning. This is well understood. However, what has been ignored is the impact emotions have on the ability to access cognitive thought. It is evident that the emotional brain is very powerful and over-rides the cognitive process when it is engaged. Further, in children who have been subjected to a childhood that has been rich in experiences of fear, their access to the fear responses are much more entrenched, easier to evoke and harder to control.

Any course of action that has any real hope in dealing with the behaviour problems facing modern classrooms must first address the emotional climate of the classroom and the school. Education training must include an understanding of the cause of emotional memories and their impact, and how to provide the environment that will minimise that impact.

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ABOUT THE AUTHOR

Mr John Frew is Principal of Holsworthy High School, in NSW. He can be contacted by email at: John.Frew@det.nsw.edu.au.

New South Wales

ALONG with other States, NSW has seen very little real growth in public and Catholic schools for a decade. With around 40,000 fewer secondary students anticipated in NSW in the next 15 years, public and possibly Catholic systems will be facing an increasing number of school closures.

In this context, the NSW Secondary Principals Council has spent a decade developing submissions and achieving policy improvements, changing public education to make it more competitive.

In more recent times, secondary principals have become convinced that this isn't enough. Their attention is now turning to inadequate regulatory frameworks that are giving government-funded private schools a more noticeable competitive advantage.

While there has never been much equity in the total landscape of NSW schools, this was less noticeable when the 'private' sector remained small. With government schools now in a minority in some parts of Sydney, the spotlight is being thrown equally on improving public education and on improving the frameworks under which all schools should be required to operate.

In the process, principals look to the relative equity achieved in 'integrated' systems (in which 'private' schools operate within state systems) in countries such as New Zealand. They also look to PISA testing, which indicates that socially cohesive systems in OECD nations seem to have the best results. NSW shares with other States the worrying legacy of government schools being marginalised by a 'private' system untroubled by the operational constraints mandated on public schools.

While principals in NSW are very wary about integration, they do believe that comparable practice is essential in all government-funded schools in matters such as enrolment, suspension, student welfare, school

uniform, fees and compliance with all legislation. These are the day-to-day matters that make up the school competition 'playing field'.

With this in mind, the Council has been joined by the NSW Primary Principals Association in developing a project that will develop such initiatives as:

- new legal frameworks for all schools;
- new policy options for government and opposition;
- increased awareness-raising through our schools;
- networks through service, church and community organisations; and,
- suitable cross-sectoral networks of schools committed to social justice and equity.

The Council is keeping other States and ASPA aware of the project, which will continue towards the 2007 state and federal elections.

Mr Chris Bonnor, President, NSW Secondary Principals Council & Principal, Davidson High School, NSW
Email: chris.bonnor@det.nsw.edu.au