

HENK POPPING  
OTUMOETAI INTERMEDIATE SCHOOL  
TAURANGA

Sabbatical Report Term 2 2009

## ACKNOWLEDGEMENTS

I would like to thank the Ministry of Education for selecting me for this sabbatical and the Otumoetai Intermediate School Board of trustees for their professional and financial support. A special thank you to all the principals of the intermediate schools I visited and in particular David Whitehead from the University of Waikato for his assistance in providing relevant readings, research and acting as a mentor during the research phase of this sabbatical.

## INTRODUCTION

As principal for 9 years at Otumoetai Intermediate School a U7 decile 7 school in Tauranga, Bay of Plenty I was awarded a Primary principal's Sabbatical Award for Term 2 2009. Prior to commencing principalship at Otumoetai Intermediate I had been principal at a U6 decile 8 large urban primary school for 8 years and prior to that principal of a Model Country School for a further 3 years.

During my role as principal of a large intermediate school with 800 students I have relished the challenge of educating emerging adolescents and have developed a particular interest in how they think.

While there was the obvious benefit of refreshment from this sabbatical, the main benefits will be using the information gained to take Otumoetai Intermediate School forward in the next five years with a greater understanding of the adolescent brain and how as a school we can utilise this knowledge to foster student learning and to assist parents in understanding and supporting their children.

## GENERAL REPORT

The sabbatical leave was for the following activities:

- Professional refreshment
- Study and research
- Visiting schools and other institutions

## Preamble

During 2007 Otumoetai Intermediate School developed the following strategic goals in its charter:

### SCHOOL STRATEGIC GOALS

2007 to 2011

1. **All students will experience effective learning in a positive environment.**  
( physical, emotional, social encouraging attitudes among students, teachers.)
2. **The school will foster the partnership between whanau ( families ) and school where learning is nurtured.**
3. **The school will recruit and enable staff with the ability to meet school expectations.**  
( good employer, recruitment, induction, ongoing professional development)
4. **The school will ensure all students will develop the skills and competencies to live in a global community.**  
(Key competencies, appropriate focus on all curriculum areas inc second languages)
5. **The school will ensure all students are given opportunities to develop to their full potential.**  
( minimal disruption from others, sense of pride, strong self belief.)
6. **The school will focus on the emerging adolescent and the unique needs of this age group in their development.**  
( Puberty, understanding changes in self, social relations, aspects of middle schooling)
7. **The school will seek ways to be innovative and develop a climate of continuous improvement.**

The sabbatical focused on all these but in particular goal 6. I have developed a personal interest in this area after having attended a workshop with Dr Michael Nagle from the University of the Sunshine Coast, Australia. From preliminary reading and discussion with colleagues this appears to be an area that few of my principal colleagues have ventured into as a school wide focus.

I have also been stimulated by Marc Prensky's writing demonstrated by the following passage:

Marc Prensky Digital Natives Digital Immigrants ©2001 Marc Prensky

---

#### Digital Natives, Digital Immigrants

By Marc Prensky

From *On the Horizon* (MCB University Press, Vol. 9 No. 5, October 2001)

© 2001 Marc Prensky

It is amazing to me how in all the hoopla and debate these days about the decline of education in the US we ignore the most fundamental of its causes. ***Our students have changed radically. Today's students are no longer the people our educational system was designed to teach.***

Today's students have not just changed *incrementally* from those of the past, nor simply changed their slang, clothes, body adornments, or styles, as has happened between generations previously. A really big

*discontinuity* has taken place. One might even call it a “singularity” – an event which changes things so fundamentally that there is absolutely no going back. This so-called “singularity” is the arrival and rapid dissemination of digital technology in the last decades of the 20th century.

Today's students – K through college – represent the first generations to grow up with this new technology. They have spent their entire lives surrounded by and using computers, videogames, digital music players, video cams, cell phones, and all the other toys and tools of the digital age. Today's average college grads have spent less than 5,000 hours of their lives reading, but over 10,000 hours playing video games (not to mention 20,000 hours watching TV). Computer games, email, the Internet, cell phones and instant messaging are integral parts of their lives.

It is now clear that as a result of this ubiquitous environment and the sheer volume of their interaction with it, today's students *think and process information fundamentally differently* from their predecessors. These differences go far further and deeper than most educators suspect or realize. “Different kinds of experiences lead to different brain structures,” says Dr. Bruce D. Perry of Baylor College of Medicine. As we shall see in the next installment, it is very likely that *our students' brains have physically changed* – and are different from ours – as a result of how they grew up. But whether or not this is *literally* true, we can say with certainty that their *thinking patterns* have changed

## Programme Outline

1. Preparation for this sabbatical included a series of 5 x hour long one-on-one reflective discussions on leading learning with Jeremy Kedian of the Educational Leadership Centre at the University of Waikato during 2007 followed by a continuation of these discussions with Murray Fletcher from the Educational Leadership Centre during 2008 and this year.

Both Jeremy and Murray were contracted by the Otumoetai Intermediate School board of trustees to provide a longitudinal principal's appraisal process including professional reflection.

I am also a member of the Educational Leadership Centre's consultative principals group to assist the centre with in-the-field advice to colleagues. The focus of conversations held with these colleagues has been on **leading learning** in schools and in my case specifically in our intermediate school.

2. Preliminary readings in this area have included:

Leadbeatter,C, 2004, *Learning about personalisation: How can we put the learner at the heart of the education system?* London, DfES

Sousa.D.A, 2006 ,*How the Brain Learns*,3<sup>rd</sup> Edition, London,Hawker Brownlow

3. The programme involved professional reading and reflection on current Otumoetai Intermediate School pedagogical practices and organisation followed up with visits to selected schools for dialogue with colleagues on the theme being explored during the sabbatical.

## Schedule of Sabbatical Activities carried out

Prior to taking leave I liaised with key people at the Educational Leadership Centre and overseas to develop a professional reading programme for the research / study phase. I was very appreciative of David Whitehead's willingness to provide me with regular readings and his challenging questions for me to consider.

I Visited a number of intermediate schools in Wellington, Auckland, New Plymouth, Napier and Masterton. These schools were either similar in size, decile, had similar student populations or had been identified to me as having best practice in the area of focus of this sabbatical.

## Outcomes

### 1. School visits

- All the schools visited had similarities in the structure and organisation of their leadership teams with a senior management team of principal/DP's supported by other leaders. These were known by a number of titles but effectively carried out the same task of leading teams of teachers and students within the school.
- The primary focus of all the schools visited, was developing their school curriculum based on the new, New Zealand curriculum in time for 2010. Variations were evident between schools as they endeavoured to cater for the diversity of their students.
- A second major priority for many of the principals visited was the effect national standards would have on their schools and how they were going to meet the standards once they became mandatory.
- Each school had instances of innovative practice to engage students in learning and every principal articulated **student engagement** as fundamental to the success of the school in educating their students effectively.
- All schools visited had approaches to manage student behaviour with "trusted students" a predominant feature alongside restorative practices to deal with negative behaviours/ incidents.
- All principals visited were highly passionate about learning and how they were leading learning within their schools. All recognised the uniqueness of the emerging adolescent and the need to expose their students to a wide range of activities and learning opportunities as a part of their overall development.
- Information Technology was highly visible in all the schools visited with interactive learning taking place across all classes. A wide variation in resourcing information technology was evident. Some schools were also more liberal than others in terms of managing student personal devices such as cell phones and i-pods.
- In all schools students showed enthusiasm towards their learning and a pride in their class and school. Student engagement strategies by teaching staff were widely evident with feedback and feed forward a common feature.
- All the principals visited were aware of new research in adolescent brain development and had attended seminars on the topic. A variety of models were being used to promote thinking skills and

student engagement such as De Bono's Hats and Habits of Mind. Reference to adolescent brain development was generally encapsulated in the student competencies schools were developing.

## **2. Research**

From the readings provided by David Whitehead and from my own research on the internet I formed a much clearer understanding of adolescent brain development and the second critical development phase our students were entering.

I felt it would be extremely useful to develop an easy to read guide for Otumoetai Intermediate School parents and a similar guide for Otumoetai Intermediate School staff where key information would be made available to them.

*An example of the parent guide ( brochure ) is attached.*

These will be made available to parents each year on enrolment to our school and to staff as part of their induction to our intermediate school.

The readings also challenged my own beliefs and understanding of emerging adolescent needs and have caused me to continue further in my research and how best to provide quality learning for all students in our school.

## **Conclusion**

This sabbatical provided me with a unique opportunity to visit and have wide ranging discussions with my colleagues. Many of these were for extended periods of time and each time I left the host school with the impression my colleagues appreciated the reciprocal sharing our discussions allowed. These discussions stimulated a large amount of reflection on my part and I came away from each school with a new idea or strategy for leading learning I may not have considered prior to the visit.

As principal of a large intermediate school, one does not get much time to read and reflect on leadership on a day to day basis. Therefore the research on my area of focus that I was able to do during the sabbatical was extremely valuable and refreshing.

The most satisfying aspect of the sabbatical was the high level of affirmation I have felt for my own school's organisation, practices and student learning outcomes. There will no doubt be further adjustments made as a result of the ideas I am able to bring back from my sabbatical.

Henk Popping

3 July 2009

## What's going on in my child's head?

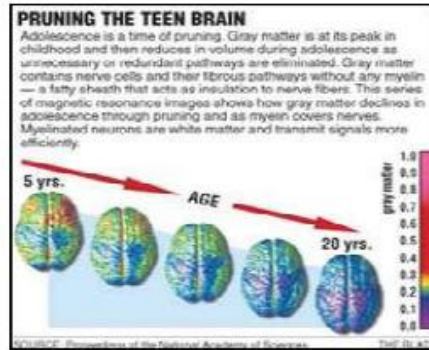
Understanding our emerging adolescent child.

### A Parent Guide

Teenagers' selfish, reckless, irrational and irritable behaviour can be explained by the huge amount of construction going on inside the adolescent brain. In the teenage years, our brains may be fully grown, but the wiring is certainly still a work in progress.

Psychologists used to explain the particularly unpleasant characteristics of adolescence as products of raging sex hormones, since children's brains reach near adult cerebral volumes well before puberty.

More recently, though, imaging studies have revealed a huge amount of structural changes in the teens and early 20s that go a long way towards explaining these tumultuous teenage years. Your child is entering a period where a massive production of brain cells and neural connections occurs.

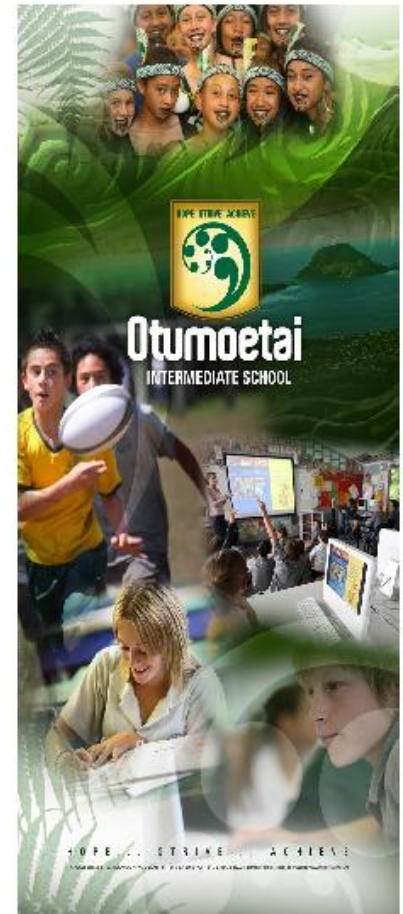


**Nerve Proliferation... ..and Pruning**

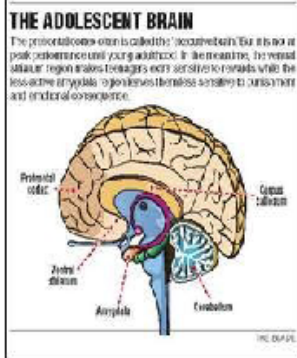
- By age 13 for girls and 12 for boys the neurons in the front of the brain have formed thousands of new connections. Over the next few years most of these links will be pruned.
- Those that are used and reinforced — the pathways involved in language, for example — will be strengthened, while the ones that aren't used will die out.

In adolescents two processes are taking place at a rapid rate: *pruning*, the process by which unnecessary nerve synapses (gray matter) in the frontal lobe are eliminated) as well as *myelination*, involving white matter that envelops connections to stabilize them. This conversion of gray to white matter is critical to making the brain's operation more efficient and developing the neural networks regulating behavior. The frontal lobes regulate the amygdala, the brain's emotional center, which controls anger, fear, recklessness, and gut responses.

A fully developed prefrontal cortex helps adults predict the consequences of their actions. In adolescents, the less developed prefrontal cortex affects the adolescent's ability for mental reasoning, decision-making, and assessment of consequences.



The brain performs many functions simultaneously and is a complex organ. Neuro science has helped us understand the roles different parts of the brain play.



**Prefrontal Cortex**

The CEO of the brain and the last part to mature. Usually around the early 20s. Located just behind the forehead, the prefrontal cortex grows during the pre-teen years and then shrinks as neural connections are pruned during adolescent years.

**Amygdala**

This is the emotional centre of the brain and home to such primal feelings as fear and rage. In processing emotional information adolescents tend to rely more heavily on the amygdala. Adults depend more on the rational prefrontal cortex which is still under developed in adolescence. This may explain why teenagers react more impulsively than adults.

**Cerebellum**

Long thought to play a role in physical coordination. This area may also regulate certain thought processes. It is more sensitive to the environment than heredity and supports activities of higher learning such as mathematics, music and advanced social skills. New research shows it changes dramatically during adolescence, increasing both the number of neurons and the complexity between them.

**Corpus Callosum**

Thought to be involved in problem solving, this bundle of nerve fibres connects the left and right hemispheres of the brain. During adolescence, the fibres thicken and process information more efficiently.

From age 10 years on, as our students enter intermediate school, circuits in the brain that coordinate our children's behaviours, help them make good decisions, control their impulses, react appropriately in different situations, govern their eating and sleeping habits, etc., are remodelled, laying the groundwork for adult life.

Much of this remodelling is influenced by each individual's interactions with the outside world; the adolescent brain is more highly mouldable by experience than the adult brain.

During their time at intermediate and at secondary school, a weeding out process begins in the students' brains. Frontal lobe circuits that are exercised are strengthened while other connections are weeded out – leading to a reduction in gray matter volumes in the frontal lobes throughout the adolescent period.

This is a "use it or lose it" period of personal change.

It can be helpful to think of gray matter in the frontal lobes of a newborn as a lump of clay. The lump of clay continues to grow during childhood and is then sculpted and shaped during adolescence into the structure that will exist during adulthood.

Our intermediate school is structured to optimise the experiences each student has in recognition of the need to expose emerging adolescents to a wide variety of activities and experiences as they rewire their brains for adulthood.

Adolescence is a tumultuous time for everyone involved. Somehow, the individual must make the transition from dependence to independence.

The changes in their brain naturally help drive adolescents away from the nest. Adolescents push away from parents and others who represent authority, including teachers. They are built this way. They are also built to take risks and seek out novel experiences, which helps them build confidence and acquire the skills needed to make a living in the world.

*Emerging adolescence is the time to actually increase your parental involvement through guidance and knowing what they are doing.*

*\*It's the beginning of the 2nd most rapid & INFLUENTIAL period of development after ages 0-3.*

**Adolescents behave differently from adults because their brains are different.**

Adolescence is a period of rapid brain development.

The brain is most vulnerable when it is undergoing very rapid periods of development.

The adolescent brain is highly susceptible to damage and it is also highly receptive to new experiences and learning.

Adolescents are really poised to process information in a very new way.

Adolescents are more risk prone and less risk averse.

Adolescent's brains are reward driven because their dopamine system is rapidly developing.

Adolescent brains are also very responsive to certain classes of drugs, including alcohol which can lead to addiction and over consumption.

In addition to changes in risk taking behaviour, changes in the adolescent brain also influence their sleeping and waking cycle. Their circadian rhythms change, and their preferred bedtime and waking times get later and later.

Sleep recharges the brain and allows the body to rest and heal. While we sleep our brain consolidates memories. Inadequate sleep affects brain cell function. Adolescents should ideally have 8 to 9 hours sleep on a regular basis.

Understanding the immaturity of the adolescent brain helps make us more compassionate with adolescents and understand their behaviour. We are less likely to expect them to behave like adults.

They are unable to behave like adults.

As emerging adolescents our students are entering this hugely important phase in their lives.

