



Sabbatical Report

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Waitohu School

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Acknowledgements

Thank you to Teach NZ for granting me this sabbatical opportunity. Thank you to my Board of Trustees for supporting my application. Thank you to my Deputy Principal Shelly Matheson, for enabling me to undertake this opportunity.

Purpose

The aim of the sabbatical was to '*gather innovative ideas that schools use to accelerate target students' progress rates*'.

Background and Scope

As a school we, like many others, have been interested in the connection between the understandings *neuroscience* is providing to the learning challenges our target students face.

As a staff we have attended several professional development days led by Nathan Wallis. We have found them insightful and they have stimulated lots of reflection and discussion. Alongside neuroscience we have been learning about *Choice Theory*, a body of knowledge by Dr William Glasser. My sabbatical inquiry morphed into making explicit connections between *neuroscience* and *Choice Theory* and using these innovative ideas as a way to accelerate target students' progress rates.

Key Questions

- How easily could students understand the basic concepts of *neuroscience* and *Choice Theory*?
- Could students as young as 5 years old understand these concepts?
- Once understood could and would students apply these ideas when in stressful situations?
- What observable differences did teachers and students notice about how they responded in stressful situations?
- Were there any accelerated learning gains for students who had learnt these concepts?

Sources of Information

Neuroscience is a big topic. The part of neuroscience focused upon was the structure of the brain and the growing of neural pathways. The concepts explored were the Flow of 'Brainpower', Neural Plasticity, Brainstem, Midbrain, Limbic and Frontal Cortex.

Members of our staff have read, listened to interviews and attended a number of workshops enjoying learning from the work of:

Nathan Mikaere-Wallis

Nathan is an educator who is doing really helpful work to bridge the neuroscience research with educational and parenting practice. Through running workshops Nathan shares this information.

Nathan runs his own business - X Factor Educational Limited.

Dr Philip Fisher

Philip, as a presenter at Brainwave Trust Conference, has also been a source of information.

Philip is a Director of PSI Center on Translational Neuroscience, a Professor of Psychology & Director of Clinical Training, University of Oregon and a Senior Fellow & Director of the Translational Science Initiative, Center on the Developing Child at Harvard University.

The neuroscience ideas have primarily come from information presented by Nathan and Philip.

Dr William Glasser

William Glasser, an American psychiatrist, developed useful tools to support individuals to recognise what they want, to then be able to make effective choices to get what they want. His key concepts are Choice Theory and Reality Therapy.

Choice Theory provides an explanation of the internal process individuals go through when making decisions. It is based upon internal control psychology. Its usefulness is that it provides a tool for reflecting upon on the drivers that underpin our thinking and actions. Making this internal process visible through his Choice Theory feedback loop model, Glasser has simplified complex ideas for regular people to understand and use.

Reality Therapy is simply a way of practically applying and using Choice Theory in our day to day lives.

Core Concepts

The ideas of Neuroscience and Choice work together in complementary ways. There are four big ideas that weave these two bodies of knowledge together:

- Relationship
- Thinking and Actions
- Meta cognition
- Creativity

Relationship

Relationship is everything. It is the most important consideration.

The number one need of a person in their brainstem to be able to move to their midbrain, and beyond, is a person they feel safe with. Unless a person feels safe in the

presence of the person or people they are with, they are not going to access the executive functions (self control, meta cognition, cognitive flexibility and working memory) of their frontal cortex. It is only by our brainpower accessing and spending considerable time in our frontal cortex that we are going to thrive.

We cannot force someone to respect or like us. Unless we are respected or liked we are never going to be in another person's quality world. It is only when people hold us in their quality world, (that is we meet a basic need of theirs) that we will ever have any chance of positively influencing their lives.

Relationship being everything means how we do what we do is as, and often more important than what we do. It doesn't mean we always give people what they want. How we say, 'No', how we hold people accountable, how we negotiate, how we convey the unwanted, but necessary information, is the key.

Creativity

Glasser's representation of creativity within the Behavioural System being able to generate new thinking and actions aligns with the neural plasticity process of growing and pruning neural pathways.

The Behavioural System, from a neuroscience perspective represents neural pathways. The straighter the line the more insulated the neural pathway is with myelin and the more fixed the habit. The wavier the line the more emerging the neural pathway is, with many more repetitions of the thinking or actions required to insulate the neural pathway with myelin.

Thinking and Actions

Total Behaviour shows us that the only things we can directly control are our thinking and actions. Neural plasticity shows us that it is the repetitiveness or absence of thinking and actions that grows or prunes neural pathways. The greatest power we have to effect change in ourselves is to take seriously the direct and conscious role we can have in growing and pruning neural pathways (habits). Glasser's Choice Theory information feedback loop both affirms this, and provides useful tools to over time choose which neural pathways will get us what we want.

Meta Cognition (thinking about thinking)

One of the four most important executive functions of the frontal cortex is meta cognition. Meta cognition is the ability to think about your thinking. Learning Glasser's 'Choice Theory' and applying Glasser's 'Reality Therapy' is all about developing meta cognition. It is a key to making more useful choices.

Process

Prior to and during my sabbatical I worked 1-1 or in small groups with students and their teachers, learning together the concepts of *neuroscience and Choice Theory*. Together we explored the concepts outlined above.

Outcomes

Acceleration in learning is only possible when students can access and be within their frontal cortex. Students, teachers and parents all identified noticeable growth in students' ability to self-regulate and articulate their experience when they had experienced stress. Students could articulate the concepts learned, and with practise and to varying degrees of depth, apply them in their personal lives. Learning gains were identified.

Next Steps

- To explore if the *innovative idea of visibly integrating neuroscience and Choice Theory* can be applied across the full school.
- To create a website for sharing concepts and ideas to support teachers and students in their learning and applying of these ideas.
- To assess across a Year 1 – 6 primary school if there is any noticeable difference made to students wellbeing, and consequent learning, as a result of learning and applying *neuroscience and Choice Theory*.

Within Waitohu School the above steps are being implemented during 2019 and 2020.