

Modern Learning in the Christian Context

Principal's Sabbatical May-July 2016

When I was educated at school the **Teacher** was at the centre of the learning. In 'Modern Learning' the **Student** assumes centre stage. Christian schooling puts **Christ** at the centre of everything. The question then is who is actually at the centre of learning? The purpose in taking this sabbatical is to explore the 'fit' or otherwise of modern learning theory and practices within the context of a Christian School, in particular, Bethlehem College.

Intent:

In order to align Modern Learning with a Christian School I thought it prudent to first explore **Knowledge and Thinking Progressions** from ancient times until now. The next step is an articulation of the ideals of **Christian Education**. When these are clarified, I will address **Modern Learning**, in particular, elements of research about learning and pedagogical best practice.

Reading:

- If Not Now....Then When? A Biblical Epistemology for Evangelical Christ-Centered Education and Schooling. Rob Moore.
- Epistemology: Becoming Intellectually Virtuous. W J Wood.
- Foundations of Education, a Christian Vision. A collection of essays edited by Matthew Etherington.
- The *Special Character* of New Zealand protestant integrated evangelical schools. Graham D Smith.
- Christian Education Trust (Bethlehem NZ) – Philosophy of Christian Education
- Visual Valet. Personal assistant for Christian thinkers and teachers. Harold Klassen. Handbook: <http://www.slideshare.net/HaroldKlassen/visual-valet-personal-assistant-for-christian-thinkers-and-teachers>
- What makes an education 'Christian'? Derek Schuurman.
- Walking with God in the classroom. Harro Van Brummelen.
- Who owns the learning? Alan November. Also, his learning website with many resources <http://novemberlearning.com/educational-resources-for-educators/>
- Stratosphere. Michael Fullan.
- The Learning Powered School - Pioneering 21st Century Education. Guy Claxton, Maryl Chambers, Graham Powell, Bill Lucas.
- 21st Century Skills. Learning for life in our times. Bernie Trilling and Charles Fadel
- Visible Learning into Action – International case studies of impact. John Hattie, Deb Masters, Kate Birch.
- Switch on your Brain. Caroline Leaf
- <https://tifwe.org/flourishing>

- <https://tifwe.org/what-is-flourishing>
- http://www.worldmag.com/2013/05/the_new_legalism/
- Mark Osborne: <http://www.core-ed.org/sites/core-ed.org/files/Modern-Learning-Environments-v.1.pdf>
- Nair and Fielding – 20 learning modalities.
http://magnificaths.org/sites/default/files/uploads/2012/02/Magnificat_20LearningModalities.pdf
- The Nature of Learning <https://www.oecd.org/edu/ceri/50300814.pdf>
- A Routledge Freebook Know Thy Impact
http://msgfocus.com/files/tfinf_tandf/project_655/Know_Thy_Impact_Visible_Learning_in_Theory_and_Practice.pdf
- The Effort Effect.
https://alumni.stanford.edu/get/page/magazine/article/?article_id=32124
- The power of YET. Carol Dweck.
https://www.ted.com/talks/carol_dweck_the_power_of_believing_that_you_can_improve?language=en#t-354528

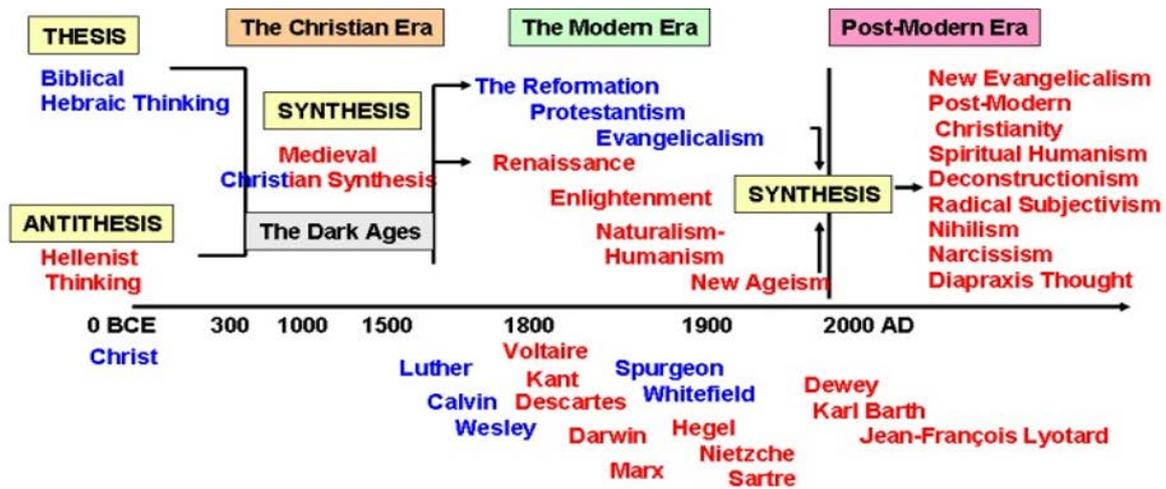
Part 1: Knowledge and Thinking Progressions:

The importance of education for defending truth and wisdom was discussed by Aristotle. On one occasion, when asked how much educated people were superior to uneducated, he replied “as much as the living are to the dead.”

Thinking matters. Epistemology (the origins, nature, methods and limits of human knowledge and thinking) is not (or should not be) concerned merely with the piecemeal appraisal of individual beliefs but with the kind of people we are and are becoming.

Since the time of the Enlightenment (a European intellectual movement of the late 17th and 18th centuries emphasizing reason and individualism rather than tradition), people have believed that humaneness would follow the path of the progress of knowledge. The one who knows what is right will do what is right, but historical experience has proven otherwise. Indeed, an extreme view could conclude that the progress of humanity has been, for the post-modern individual, utterly lost in romantic illusions. Truth is an empty concept that means whatever anyone wants it to mean. Schools are molding individuals to be able to play well their socially determined role, according to the agenda of post-modernity.

From the time of Christ, biblical thinking has been synthesised, reformed and then resynthesised. The Post-Modern Era and its epistemology stand in stark contrast to the truth and understanding of knowledge and wisdom of the God of Abraham, Isaac and Jacob.



There emerged two lines of thought during the Modern Era: the humanist elements of the Renaissance and the Bible-based teaching of the Reformation, with a consequent tension between these opposing views. The Renaissance brought a change of thinking about man, a change which put man himself at the centre of all things. Today, post-modern knowledge and thinking pervades and permeates the world in which we live and educate. When Jesus prayed for his disciples he said (John 17:15-19)

¹⁵ My prayer is not that you take them out of the world but that you protect them from the evil one. ¹⁶ They are not of the world, even as I am not of it. ¹⁷ Sanctify them by^[a] the truth; your word is truth. ¹⁸ As you sent me into the world, I have sent them into the world. ¹⁹ For them I sanctify myself, that they too may be truly sanctified.

One of the greatest challenges facing modern Christian Education is to use Biblical epistemology to develop intellectual virtue.

Part 2: Christian Education:

Christian schooling was the only form of education in New Zealand in 1816 and it is upon that foundation that this nation's Christian School movement is built. However, the breakdown of trust in the settler administration during the time of the New Zealand wars saw Maori completely withdraw from schools. In 1877 the New Zealand government passed legislation for free, secular, compulsory education for the colony and thereafter assumed responsibility for its provision. It almost completely stifled out the existence of all other schools, particularly Protestant. To a large extent, Catholic campaigning for nearly a century culminated in the provision of free Catholic and Protestant Christian schools through the 1975 Integration Act.

Christian Education is an international pursuit. Abraham Kuyper (a Hollander, 1837-1920), a Calvinist, gave great inspiration to the Christian School movement in the West with respect to the right of parents to have their children taught by fellow Christians in a Christian environment. His emphasis on the sovereignty of God reminded the Christian School movement that all learning is under God's authority. "There is not one square inch in the whole domain of our human existence over which Christ, who is sovereign over all, does not cry 'Mine!'" said Kuyper.

Francis Schaeffer in reinforcing this notion, denounces the rise of dualism which

spiritualises faith by separating biblical precept from experience. The practice of one's faith not necessarily correlated to behaviour, is justifiable in dualistic thinking. Conversely, life should be consistently lived out in unity and harmony with God's Word, not compartmentalised. Jesus is Lord of all.

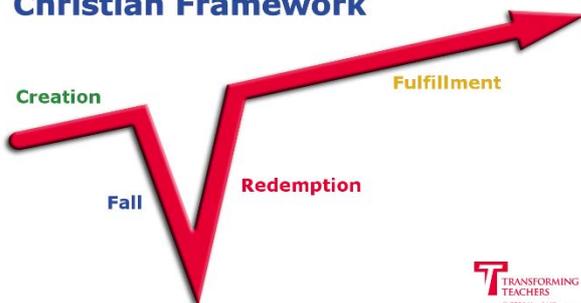
The Christian Schools movement in New Zealand has sought to put God, rather than humankind (teacher or student) at the centre of their living and thinking, and in their interpretation of the world. Its metanarrative is that of the Bible and its purpose to transform lives and change society accordingly. Its claim to be God centred or Christ centred is based on the truth found in the Christian scriptures and its application in an all-

comprehensive, all-pervasive worldview and lifestyle. This is why the *special character* is carefully protected under the 1975 Integration Act. Christian schooling is not (or should not be) secular education with some religion on the side.

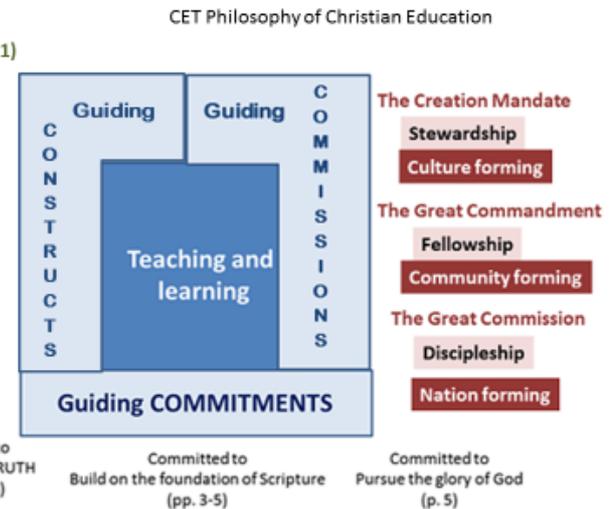
The Christian Education Trust (CET) – the founders of Bethlehem College, published a philosophy of Christian Education to help shape teaching and learning, throughout their entities. It sets out the guiding commitments, commissions and constructs – in that order. The CET is committed to a search for truth based on the foundation of scripture. It exists to glorify God in education as part of the broader reason for life as expressed in the Westminster Larger Catechism – “Man’s chief and highest end is to glorify God and enjoy Him forever.” We (people) are image bearers of God, able to experience relationship with God differently to other components of creation. Furthermore, we are stewards of that which God has created and planned for humanity, able to help form and influence culture, communities and nations. The founding motto of Bethlehem College ‘Take Dominion’ encompassed this notion of formation and restoration, of redeemed transformational thinking.

A ‘ground motive’ has been defined as a very deep view of reality that drives all thinking and action forward over a long period. The Creation-Fall-Redemption motive of Hebrew thought is one of four that have been identified by the Christian Philosopher Dooyeweerd. Harold Klassen, a Canadian Educator, has enhanced this

Christian Framework



TRANSFORMING TEACHERS
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ground motive into a personal assistant for Christian teachers and thinkers and called it the Visual Valet model. Klassen states in his handbook “It (the framework) is simple enough to be understood by young children and open-ended enough to be used by sophisticated scholars. May it be like a

Swiss-army knife, a practical tool enabling you to make progress in the great project of becoming a Christian thinker and teaching your students to be Christian thinkers as well." Klassen stresses Biblical integration is about fitting everything we know and teach into the very BIG picture of what God is doing. The equivalent four elements of the Christian Framework become **Reflections**, **Distortions**, **Revelations** and **Applications** in the biblical integration framework.

The concept of biblical integration raises the question of just how a Christian teacher in a Christian school is to teach from a biblical perspective.

1. The first approach is to proceed as if there is not much difference between Christian and secular education. This approach basically concedes to the position that the Bible deals in matters of faith whereas education is concerned with the academic, logic and reason. The Christian School movement seeks not to compartmentalise the religious aspects of faith and thus create a dualism within their schools. Rather, the Bible and its truth should be an integral part of learning; 'precept upon precept, line on line, here a little, there a little.' Isaiah 28:9-10. Indeed, this is the basis of developing intellectual virtue.
2. The second approach is to equate Christian education with the character of the Christian teacher. Here, biblical precepts are left to osmosis. While Christian teachers of good character are vitally important and absolutely necessary, they are not sufficient.
3. The third approach is where faith is added artificially to the learning. This can be by the inclusion of a scripture somewhere that seems appropriate or formalising each lesson by beginning with prayer. This is quickly seen through by students as shallow.
4. Another approach is to tend to treat the Bible as the sole textbook. It was never meant to contain all that is to be known so clearly this is not a sound approach. Neither is the tendency to draw analogies between academic subjects and the attributes of God. While both of these approaches have some value, they are also insufficient.
5. The fifth approach is to sift all content and thinking through a biblical worldview. This approach is a holistic one that seeks to keep a healthy tension between the content that must be taught and the context (Christian) in which it is taught. Biblical literacy (or the lack of) amongst students and staff is probably the biggest barrier to implementing this approach.

The enhanced ground motive of Klassen, the Visual Valet framework, is a most helpful and useful representation of how to teach from a biblical perspective because it is able to address the development of an intellectual virtue in students which in turn provides the foundation for the development of moral virtue; the two are intertwined in the pursuit of great hearts and minds.

Another key to effective Christian education is service learning, developing a service virtue. Western secular thinking is often based on rationalism (the only reality is the physical one), individualism (making ourselves the centre of the moral universe Gen 3:6,7) and self-advancement (often expressed as being successful in a career and financially secure). In contrast to this, the biblically assumed purpose within the teaching and learning process is love of God and brother and sister. It is the process of becoming more mature in this love that we are called to celebrate, not educational narcissism that is the extension of self-advancement. One of the most important

aspects of building a Christian educational community is using whatever gifts we have to serve others.

Service learning is a holistic approach to teaching and learning bringing together a soft heart, a strong mind and serving hands. Teachers who are willing to be vulnerable enough to listen to what is important to the hearts of their students are soft hearted and discerning. They can respond to the teachable moments just as Jesus did with his disciples, often using parables. Their classrooms function on the principles of life such as “looking not only to your own interests but also the interests of others” (Phil 2:4), of “doing unto others as you would have them do unto you” (Matt 7:12) and of “using whatever you have to bless and serve others” (1 Pet 4:10). Pedagogies create an invitation to students to learn consistently, deeply and thoroughly so as to contribute to humanity and to care for God’s creation. The Bible repeatedly uses the phrase *doing good*. This vision for the classroom is simple and its impact profound. It builds character.

The combination of nurturing students to have soft hearts, strong minds and serving hands is summed up in a modern term in Christian education using a very ancient concept of Shalom. This term is *flourishing*. In the secular world we are encouraged to be the best that we can be. *Flourishing* is about becoming everything we were created to be. The latter is a far more exciting prospect and essentially is about a life well lived.

Anthony Bradley, a professor at Kings College in New York, whilst pondering what it means for Christians to love God and love neighbour writes

An emphasis on human flourishing, ours and others’, becomes important because it is characterized by a holistic concern for the spiritual, moral, physical, economic, material, political, psychological, and social context necessary for human beings to live according to their design.

The Old Testament best describes flourishing using the concept of shalom, which embraces salvation, wholeness, integrity, soundness, community, connectedness, righteousness, justice and well-being. Shalom denotes a right relationship with God, with others and with God’s good creation. It is the way God intended it to be when He created the universe. Most versions of the Bible translate shalom to mean peace but it actually means much more than the absence of conflict or peace of mind.

The Bible metanarrative is the only story that explains the way things were (Creation), the way things are (Fall), the way things could be (Redemption) and the way things will be (Restoration). Jesus redeems us to restore us. To flourish as individuals and as community is to find our place in this story.

Finally, before considering modern learning, clarification is required around the opening question – **who is at the centre of the learning?** The above discourse puts **Christ** at the centre of learning because education’s essential purpose is to nurture a love of God and others, thus forming character and a healthy disposition towards self.

The role of the **teacher** is far from just being a ‘facilitator’. They **craft the learning** experience, bringing together the content and process of teaching so as to strengthen

the mind, soften the heart and engage the hands. Harro Van Brummelen uses a biblical metaphor of shepherd or guide by “unfolding content and structuring our teaching in such a way as to enable our students to take on their life’s calling”. The teacher then is vital to the process of learning but not the centre of it.

The **student** is an individual who must be treated as a bearer of God’s image. As such they have a spiritual heart rather than a social, economic or rational one. The heart is where all the strands of learning come together because students learn as total integrated beings (even if they like to pretend otherwise!). The student **is the focus of** the teaching. They bring their unique abilities, gifts, challenges and futures (calling) to their learning. The student or child is also vital to the process of learning but not the centre of it.

Educating for the 21st century has placed, and is placing, significant questions before educators. The world has changed and will continue to change in the future. New and adaptive dispositions are required to cope with this change. As Christian educators, what then should be our response?

Part 3: Modern Learning:

It must be acknowledged that the fundamentals of life have not changed. Individuals need to love and be loved. Therefore, the deeper questions and meanings of life require our attention just as they always have. The wisdom of discerning what is important and how to nurture that remains central to our work as educators in Christian schools.

That said, it must also be acknowledged that we are learners (ako) and need to adapt our pedagogical tool kit to incorporate and trial new approaches to teaching and learning informed by educational research, medical discoveries, brain understandings and developing need. Because all of these components are heavily infused with post-modern thinking, Christian teachers must proceed with caution and honour the Biblical framework without compromise when applying new methodologies in teaching practice. Nevertheless, we are compelled to engage in the reality of 21st Century learning with all its opportunities and risks. This is our act of service to our present student cohort. We owe them no less in obedience to our calling as teachers.

What does this mean for the teacher? One requires a willingness to:

1. be vulnerable. A willingness to negotiate with oneself a redefined role as teacher given the realities of learning opportunities for children of this generation.
2. be courageous. Moving deliberately, if incrementally, from a more teacher driven to student focused learning requires a shift of control (in part) from the teacher to the student.
3. be discerning. ‘Proceed with caution’ is a sound approach, but don’t stop moving. Wisdom has been said to be knowledge proven in practice.
4. Be teachable. The concept of ‘ako’.

Use of devices:

Putting devices into classrooms as attachments to an industrial model of teaching ironically freezes the pedagogy and reinforces the traditional culture. Laptops and

iPads become expensive pens. Successful implementation of technology into education is more complex than providing students with access to devices and moving content to online courses. Alan November in writing on preparing students of the digital age states

'Instead [of the above], we have to teach students to use information and communication technologies to innovate, solve problems, create and be globally connected. By enabling students to drive aspects of their educational experience, shape their involvement within it, and seek higher purpose by making educational contributions that benefit others, we can bring our educational approach in alignment with the changes in the global workplace.'

In his book 'Who owns the Learning?' Alan uses a Digital Learning Farm model which focusses on four key learning roles for students in classes, namely

1. Tutorial designers
2. Student Scribes
3. Student Researchers
4. Global communicators and collaborators

This approach fits well in the head, heart and hand biblical framework of learning.

We have to teach our students how to validate the content they find on the internet, to evaluate the resources they decide to use and to ethically use online information. There are smart tools around to help. E.g. <http://novemberlearning.com/resources>

One cannot assume that because students know how to use digital devices, they are knowledgeable about critical thinking. This has to be taught.

Flipped Classrooms:

If one thinks of this as an exchange of roles then that is unhelpful and shallow. Rather, this is about organising schools around students as workers. They take greater charge of their own and each other's learning and teachers become active change agents, leading, designing and guiding the learning both individually and collaboratively. Michael Fullan in his book *Stratosphere* claims that this involves teachers in designing work that is irresistibly engaging, is elegantly easy to engage in, accesses technology ubiquitously, and is steeped in higher-order skills and real life problem solving. John Hattie's meta-studies confirm the effective teacher as an active change agent or activator. Effect size comparisons of 'teacher as activator' and 'teacher as facilitator' greatly favour the activator approach (0.6 cf 0.17). 'Know thy impact' is Hattie's mantra. Hattie found five important differences between expert teachers and average teachers. The experts:

1. have high levels of knowledge and understanding of the subjects they teach
2. can guide learning to surface and deep outcomes
3. can successfully monitor learning and provide feedback that assists students in progress
4. can attend to more attitudinal attributes of learning (such as self-efficacy and mastery motivation)
5. can provide defensible evidence of positive impacts of the teaching on student learning.

Hattie also defines nine mindframes for a successful teacher....

1. I am an evaluator
2. I am a change agent
3. I talk about learning not teaching

4. I see assessment as feedback to me
5. I engage in dialogue not monologue
6. I enjoy a challenge
7. I develop positive relationships
8. I inform all about the language of learning
9. I see learning as hard work

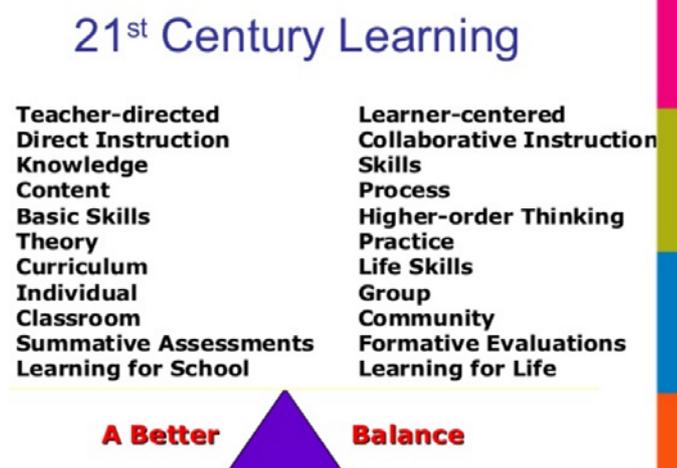
Although Sir Ken Robinson has been labelled as a spokesman for the arts, in fact he is a spokesman for students. He is an advocate for the creativity of every child being unleashed in a torrent of learning as they are helped by teachers to discover their passions and aptitudes. For that to happen, teachers, he claims, need to be mentors with four main roles: recognising, encouraging, facilitating and stretching. Mark Prensky in a similar vein describes a learning collaborative partnership between students and teachers where the creative energy and passion of both is required for the learning to have purpose, depth and longevity.

The notion of teachers and students changing places (the flipped classroom) is a concept to encourage teachers to move from the traditional instructional role to a more design and enabling role. To change the balance. That said, not all students embrace new and unfamiliar tasks. They need to be pushed, cajoled and disciplined. While the evidence in how we learn clearly shows that the learning will be more meaningful and engaging if students play a bigger part in co-constructing it, there remains a vital role for the teacher to guide and direct the process. Teachers should teach.

21st Century Learning Skills and Qualities:

Bernie Trilling and Charles Fadel (21st Century Skills) claim that education plays four universal roles. It empowers us to contribute to work and society, exercise and develop our personal talents, fulfil our civic responsibilities, and carry our traditions and values forward. Tracking these four educational goals throughout the agrarian age, the industrial age and the knowledge age provide a contrasting rubric of requirements for learning. Some remain the same but many are very different. Fadel and Trilling describe a 'perfect learning storm' where four converging forces shape learning; namely knowledge work, thinking tools, digital lifestyles and learning research. The balance requires a shift, they argue, but not an abandonment of current practice.

What are the skills, attitudes, dispositions and competencies that students are deemed to require anyway? The ones identified below against authors are not exhaustive, simply indicative. There is significant overlap.



	Michael Fullen	Guy Claxton	Alan November	Bernie Trilling & Charles Fadel	OECD Centre for Educational Research and Innovation
passion					21st C Competencies
purpose					
problem solving				Pp50-54	1. Generate, process and sort complex information
creativity				Pp56-60	
skilled communication				Pp49-50	2. think systematically and critically
collaboration				Pp49-50	
technology (ICT) savvy				Pp68-71	3. make decisions weighing different forms of evidence
citizenship				Pp80-81	
expertise					
sustainability					
information literacy				Pp68-71	4. ask meaningful questions about different subjects
media literacy				Pp67-69	
empathy					
self-direction				Pp77-79	5. be adaptable and flexible to new information
initiative				Pp77-79	
innovation				Pp56-60	6. be creative
critical thinking				Pp50-54	
adaptability & flexibility				Pp75-77	7. be able to justify and solve real-world problems
resilience					
resourcefulness					
reflectiveness					8. acquire a deep understanding of complex concepts
reciprocity					
productivity				Pp82-83	9. media literacy
accountability				Pp82-83	
leadership				Pp84-86	
responsibility				Pp84-86	10. teamwork, social and communication skills.

The ten competencies from the OECD Centre of Educational Research and Innovation are published in a practitioner guide and reflect well what could be a new set of key competencies for the 21st Century.

Trilling and Fadel summarize 21st Century Learning well when they write:

“We have long known that asking open ended questions and posing intriguing problems engage children's imaginations and help motivate them to explore, discover, create and learn. The learning method based on the power of questions is called inquiry based learning and the method that uses the power of designing solutions to problems is called design based learning. Inquiry and design learning methods have been proven to be highly effective in engaging and sustaining learning and deepening understanding. These learning methods, combined with traditional ways of acquiring content knowledge and basic skills, guided by caring teachers and parents and powered by digital tools, are at the

center of a 21st Century approach to learning." Its about "Ps and Qs" - problems and questions." While I accept this, we have to teach the basics to give students tools to solve problems and ask/answer questions. So maybe its "Bs, Ps and Qs".

Innovative Learning Environments:

Open plan learning was a learning model that failed in NZ in the 1970s and 1980s. Cynics would claim that around 75 children of varying ages and abilities could apparently learn from one another in an open plan setting while three teachers chime in to keep them on task. Memories of open plan teaching factor in parental attitudes towards the current return to opening up learning spaces.

Why then are "Modern Learning Environments" (MLEs) the current trend and what do they have to offer? The Christchurch rebuild has changed the landscape on a national scale. The Ministry of Education has embraced MLEs as their preferred option, using the design features of Prakash Nair and Randall Fielding who are recognized internationally for their creative and innovative school design. When asked if they are cheaper to build they claim not. I am not convinced. The new curriculum and its emphasis on competencies as well as content lends itself to a less conservative teaching environment where there is more collaboration, discovery and inquiry. In the new learning paradigm an attempt is made to cater for twenty learning modalities identified by Nair and Fielding, namely:

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|------------------------------------|-------------------------------|
| 1. Independent Study | 11. Seminar-Style Instruction |
| 2. Peer Tutoring | 12. Performance Learning |
| 3. One-on-one with Teacher | 13. Interdisciplinary Study |
| 4. Team Collaboration | 14. Naturalist Learning |
| 5. Class Lecture | 15. Art-Based Learning |
| 6. Project-Based Learning | 16. Social/Emotional Learning |
| 7. Distance Learning | 17. Design-Based Learning |
| 8. Learning with Mobile Technology | 18. Storytelling in a Circle |
| 9. Student Presentation | 19. Team Learning/Teaching |
| 10. Internet-Based Research | 20. Play/Movement Learning |

Nair and Fielding use David Thornburg's four learning metaphors to create spaces that cater for the above modalities, thus giving rise to the

- Campfire – a way to learn from experts or storytellers
- Watering hole – learning from peers
- The Cave – places to learn by yourself
- Life – where you bring it all together and apply it in the real world.

Technology also enables learning to be focused in many places within the classroom, not just at a whiteboard or screen. Mark Osborne claims that the key features of MLEs compared with traditional classrooms are learning spaces with greater flexibility, more openness and access to resources. Teachers collaborate in teams, complementing each other in skills, interests and abilities but also operating very reflectively and cooperatively. The OECD has published a "practitioner guide" which includes Building Blocks for innovative learning environments. (See page 10 of the guide, at <https://www.oecd.org/edu/cei/50300814.pdf>) Interestingly they are "co-operative learning, service learning, learning with technology, inquiry-based approaches,

formative assessments and home-school partnership". This thinking is far wider than building designs.

As yet there is no evidence that student achievement is enhanced directly by MLEs. They are not a panacea to underachievement and pose potential risks that require management and wisdom. The pedagogies should drive the learning, not the spaces. The environment, MLE or otherwise, should best support the learning and teaching. At Bethlehem College, my view is that we camp in the middle ground, opening up learning spaces as they are refurbished, making them flexible and optimising light, ventilation, sound and temperature to best support learning. In doing so we can retain sound aspects of traditional teaching and support more modern pedagogies simultaneously.

Visible Learning:

John Hattie has initiated a whole educational movement focused on "Visible Learning" (VL). VL schools exist now in New Zealand, Australia, the USA, the UK and Europe. It is being taken across the globe. It is built on answering a smart question. Instead of asking "what enhances learning?" (the answer to which is almost anything) one should ask "what enhances learning most?" To figure out what works best, Hattie's team have analysed the work of thousands of researchers, practitioners and students to form a meta-analysis able to generate effect sizes for different aspects of teaching on student outcomes. Their purpose is to identify the above-average effect (>0.4) and to invite teachers into those zones. John is anxious to state that his VL research is not about denigrating those who are not yet in the high impact zone but rather find ways to support teachers and schools as they move towards it. His mantra, as already stated, is to know the impact the teacher/school is having on the outcomes that are sought for the learners.

The conclusions in *Visible Learning* were cast as six signposts towards excellence in education, namely:

1. teachers are among the most powerful influences in learning.
2. teachers need to be directive, influential, caring, and actively and passionately engaged in the process of teaching and learning.
3. teachers need to be aware of what each and every student in their class is thinking and what they know, be able to construct meaning and meaningful experiences in light of this knowledge of the students, and have proficient knowledge and understanding of their subject content so that they can provide meaningful and appropriate feedback such that each student moves progressively through the curriculum levels.
4. teachers and students need to know the learning intentions and the criteria for student success for their lessons, know how well they are attaining these criteria for all students, and know where to go next in light of the gap between students' current knowledge and understanding and the success criteria of 'Where are you going?', 'How are you going?', and 'Where to next?'
5. teachers need to move from the single idea to multiple ideas, and to relate and then extend these ideas such that learners construct, and reconstruct, knowledge and ideas. It is not the knowledge or ideas, but the learner's construction of this knowledge and ideas that is critical.
6. school leaders and teachers need to create schools, staffrooms, and classroom environments in which error is welcomed as a learning opportunity, in which

discarding incorrect knowledge and understandings is welcomed, and in which teachers can feel safe to learn, re-learn, and explore knowledge and understanding.

Deb Masters, the principal consultant at Cognition Education and the global director of VL asks four questions to help schools pin down what children are really learning.

1. Does your school discuss, in detail, precisely what you want the impact of changes to be?
2. Do teachers have common perceptions of progress?
3. Do all educators in the school believe their main role is to evaluate their impact?
4. What is the impact of teaching in your school and how do you know?

The Brain:

My secondary school (Gore High School) has a motto 'Palma Non Sine Pulvere'; No Reward Without Effort (No spuds without digging). Carol Dweck is renowned for her work on Growth Mindsets and the "Effort Effect". Through more than three decades of systematic research, she has figured out answers to why some people achieve their potential while equally talented others don't. The key isn't ability; it's whether you look at ability as something inherent or as something that can be developed. That is, whether you have a fixed or growth mindset. The power of YET says "I have not got there YET, but I will." Instead of rewarding the outcome, Carol suggests we should reward the process. By doing this, neurons within the brain can form newer, stronger connections and over time they can get smarter. Effort and difficulty create opportunities to succeed rather than fail. It depends on how you think about it.

Caroline Leaf in her book *Switch on your Brain*, describes how choice has real estate around the front of the brain. Our unique multifaceted nature, made in God's image, allows us to see things from many different perspectives or angles. This thinking unzips the DNA which then expresses gene making proteins. In other words, we can have some impact on our genes by our choices and how we think. Eliminating toxic choices or thinking can trigger significant changes in wellbeing and brain function. Neuroplasticity (the ability of the brain to change in response to thinking) can operate for you as well as against you because whatever you think about most will grow. This applies to both positive and negative thinking. In Phil 4:8 where Paul writes

"Finally, brothers and sisters, whatever is true, whatever is right, whatever is pure, whatever is lovely, whatever is admirable – if anything is excellent or praiseworthy – think about these things."

Concluding comments:

I have enjoyed meandering through readings, gradually building the backdrop to modern learning. This sabbatical has reminded me of the privilege I have of leading a College committed to making an eternal difference for students and families, for workplaces and the world. It is no small challenge.

The notion of flourishing excites me because of its fullness and completeness. Faithfully developing the triad of virtues (intellectual, emotional and service) from a biblical perspective is, I believe, our task as Christian educators in the 21st Century. With Christ at the centre, our focus is the head, heart and hands of our students using any appropriate pedagogies, prayer and God's goodness and grace to realise all that He wants each one of them to be.

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