Primary Principals' Sabbatical Report
2016

Learning Landscapes

impact of design on optimising learning & addressing issues of poverty

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Acknowledgements

In my previous Principals' Sabbatical report (McLachlan, 2006) I applauded the Ministry of Education, New Zealand School Trustees Association, New Zealand Principals' Federation and New Zealand Educational Institute for instigating the Primary Principals Sabbatical scheme and stated it may well be a deciding factor in the retention of experienced Principals and encouragement of new Principals. The Principals' Sabbatical Scheme is a critical commitment to enhancing educational leadership and duly recognises the importance of allocating time to the 3r's - restoration, reflection, revival. I noted then it was a scheme that must be maintained and preferably extended and expanded if sustainable leadership is a goal. It is interesting to observe 10 years later, that Universities allocate Lecturer staff 1 year's leave - 52 weeks for Sabbatical and study whilst the Ministry of Education still only allocate 10 weeks leave for Principals. However, it is appropriate that the Primary Principal's Sabbatical shows a recognition of the complex, multi-tasking role of the Principal and multifaceted dimensions of the job by the awarding of time. It is time that is the vital ingredient that is not always present in a Principal's day. A Principals Sabbatical Award is Time. Time to do more of the things that the work of the Principal often gets in the way of doing, such as, rest and reflection, restoration and revival. The Principal's Sabbatical Award allows for "Thinking Time" and the recognition that thinking time does not just take place on the job, or at a lecture, seminar or conference. It also recognises that informal and formal settings are both valid settings for insight and learning to occur - the beach or an olive grove being just as fruitful places to reflect as an educational setting or forum. This Principal's Sabbatical Award provided time to read, and time to travel to visit places, experience, investigate, interrogate and relish wider and global perspectives of design - (one of the most thought provoking components of my Sabbatical was the Venice 2016 Architecture Biennale - Reporting From The Front) and having time to research and view the change process of the school from both ends of the telescope was most valuable.

I wish to acknowledge the Mountain View School Board of Trustees for wholeheartedly endorsing this Ministry of Education Principals' Sabbatical Award in particular the late Chairperson Mere Selwyn and thank the board for the steadfast commitment to the children and vision for the school over many years. To have had the aroha, manaakitanga, awhi and tautoko of the late Chairperson Nanny Mere Selwyn throughout my principalship has contributed immeasurably to both my professional and personal development and I lament her passing and honour her contribution to Mountain View School as Board member and Chairperson for over 20 years. I am grateful to the Deputy Principal Joy Fraser and Associate Principal Faaleo Ueli and the Senior Leadership Team and staff for their willingness to undertake the additional workload and responsibilities to facilitate my Sabbatical leave. I have learned a great deal from the Consultants and people who have shared their knowledge and skills in the developments of this report and the Mountain View Website in particular Jillian de Beer, de Beer Marketing and Communications, Dr Ann Milne, Ann Milne Education, Kane Milne, Kimkam, Jacqui Sharp ICT Consultant and Rob Te'o, TrueAudio and I am most appreciative of their support and expertise.

The Principals' Sabbatical Scheme is a critical commitment to enhancing sustainable leadership. It is a scheme that must be maintained and preferably extended and expanded if sustainable leadership is a goal. Hargreaves and Fink in their book *Sustainable Leadership* (2006) state:

> It is hard to be a successful leader. It is harder still to be a sustainable one. Sustainable educational leaders promote and practice sustaining learning. Sustainable leaders sustain others as they pursue this cause together. Sustainable leaders also sustain themselves, attending to their own renewal and not sacrificing themselves too much as they serve their community. Sustainable leaders stay the course, stay together, stay around and stay alive. Most leaders want to do things that matter, to inspire others to do those things with them, and to leave a legacy once they have gone. ..But sustainable leadership certainly needs to become the commitment of all school leaders. If change is to matter, spread, and last, sustainable leadership that stretches across many leaders must also be a fundamental priority of the systems in which leaders do their work. Sustainability is the first and final challenge of leadership. And it is the biggest challenge to the highest-level leaders of all – those in our national and state governments. (pp.272, 273)

Executive Summary

Professor Stephen Heppell (2011), globally renowned for his work in developing revolutionary learning spaces states that, "Every detail of our learning spaces matter." He believes that the "structures and strictures of education will be swept aside by the engagement, seduction, delight, passion and astonishment of a new learning world." This thinking is evident in Mountain View School's complete learning landscape, and embedded in the recently completed Silasila project buildings, even the Samoan name Silasila means "to aspire to great heights and far-reaching accomplishments, and let no obstacles get in the way of overcoming challenges to achieve visionary goals."

As outlined in my previous 2006 Principal's Sabbatical Report "Developing a Quality Learning Environment" the impetus for change for Mountain View School always had a moral purpose of improving the children's chances of escaping the poverty cycle through quality education that raised their achievement levels and set them on a path of the thrill and challenges of life-long learning. These change factors are directly related to Primary School Sector goals to raise achievement and reduce disparity, and, given the abysmal historical record, a key issue for all New Zealand school leaders is making a difference to learning outcomes for Maori and Pacific Island children. Also see previous Mountain View School academic research papers:

- *Whakatere Waka SAILL - Shared Accountability In Literacy Learning*, Paper presented at the 18th World Congress on Reading 2000. (McLachlan et al).
- *The Role of Research in Maori Student Achievement at Mountain View School*, Paper prepared for the Educational Review Office report 2002 *Maori Students: Schools Making a Difference*. (McLachlan et al).
- *Vision with Action - Closing the Equity Gap: A Practitioner's View* Paper presented to the First United States – New Zealand Round Table on Education Policy, University of Pennsylvania, 18 - 23 October 2004. (McLachlan S.L.)
- Partnerships (McLachlan,p.186) in *Effective Literacy Practice in Years 5 to 8*. Published 2006 for the Ministry of Education by Learning Media.)

These studies show a focus upon making a difference to poverty-impacted students through accelerating student achievement by research and development in curriculum delivery and resources, with a particular emphasis on literacy research and developments in English and Te Reo Maori.

However, a poverty-impacted school requires radical change on all fronts if it is to reverse the downward spiral. Elmore (2004) proposes "capacity building and accountability as a difficult but increasingly doable high-yield strategy". He states:

> We need to reframe our entire reform strategy so that it focuses relentlessly and deeply on capacity building and accountability…Briefly, capacity building involves any policy, strategy, or other action undertaken that enhances the collective efficacy of a group to raise the bar and close the gap of student learning for all students. Usually it consists of the development of three components in concert: new knowledge and competencies, new and enhanced resources, and new and deeper motivation and commitment to improve things – again, all played out collectively. (p.28)

For Mountain View School one of the aspects of capacity building was the development of a high quality learning environment. The development of quality learning environments is an issue for all professional leaders but given the previous state of Mountain View School - rundown, in debt, resource and facility depleted it was essential that transformation incorporated all of Elmore's three components both inside and outside the classroom across the whole school. For children and families in a poverty-impacted (decile 1) school their socio-economic situation impacts on every aspect of their lives. Many of the parents and grandparents have had negative schooling experiences and consequently negative expectations about schools. A change of perceptions requires a dramatic change in the signs and symbols of the school to signal new

messages that incorporate the community's cultural capital as well as positive aspirations and expectations for the future. Developing Global citizens in a poverty-impacted and failing school like Mountain View School required action on all fronts and maximising the WHOLE school site. The Child Poverty Action Group (CPAG) in their report on "Our Children, Our Choice: Priorities for Policy Series - Compulsory schooling and child poverty" states:

> As a society, we have an opportunity to help level the playing field for the poorest children through public education. Quality schooling, that also addresses children's disadvantages outside the school gate, can help counter the worst effects of poverty and inequality on children's lives. Schools can contribute to greater justice and equality, by redistributing financial resources so disadvantaged children do not fall further behind their more advantaged peers.

Mountain View School's vision for our school environment is based on the premise that if we want our children to be well educated future citizens who actively care for the environment and people's property the school needs to develop an environment that the children and community are proud of, involved in, care about and want to look after. We want the goal of creating and belonging to a beautiful, exciting place to be attainable for our poverty-impacted Mangere children. We want them to take responsibility for making and maintaining a better world despite the challenges. We want them to dare to be different – to be creative, innovative, outstanding and inspirational. We want them to aspire to excellence in every aspect of their learning and living. We want them to be proud - to be proud to belong and contribute their best to our school, our community, our place, our nation, our world.

The development of a functional, and beautiful, and exciting learning environment at Mountain View School is ongoing. All aspects of the school (curriculum, learning teaching programmes, resources, equipment, buildings, grounds, gardens) are carefully designed to promote and facilitate learning as well as complement the wider community and general educational environment. Every Learning Landscape at Mountain View School is developed with various learning objectives. They are not just decorative landscapes they are Learning Landscapes in that each of the developments is a teaching resource with multiple learning outcomes at individual, class, school or community levels. The school's strategic and annual planning has driven the optimising learning direction throughout this process. Although functionality and accelerating learning have been the underlying premise of school developments, incorporating beauty into the equation where possible was considered to be of intrinsic value, after all beauty is what moves the human spirit and adds to a sense of peace and happiness. Coming out of the daily grind and often ugliness of poverty-impacted situations into peace and beauty can help redress the balance for poverty stricken children. The children were inherently involved in transforming the total school environment. The following whakatauki from the Principal's Masters thesis, *The Power Of Visual Language* (Sue McLachlan 1996) was used as the underlying catalyst for change of the total school environment:

Nga karu a nga tamariki hei matakite maungarongo mo te ao meake nei
The eyes of the children are the visions of the future

The message to the Mountain View School children was that it was their job to make the world a better, and more beautiful place. Judging by the comments from visitors to the school about the wairua, mana, peaceful feeling, and happiness pervading the school environment the Mountain View School children have taken this challenge to heart and their ownership and accountability has created an exciting, challenging and beautiful learning environment. The children know achievements are the result of hard work with everyone contributing. They also have established goals of leadership, achieving excellence and high expectations of success. As stated the impetus for change for Mountain View School had a moral purpose of addressing issues of poverty and improving the children's chances of escaping the poverty cycle through quality education that optimised learning and raised their achievement levels. For Mountain View School one of the major aspects of capacity building for this transformation was the recognition of the impact of design on optimising learning and the importance of the development of the total/whole school site as a learning landscape and a means to address issues of poverty.

Purpose

Development of Learning Landscapes - impact of design on optimising learning and addressing issues of poverty

The work and readings from my attendance of the Venezia Biennale Architettura 2016 as part of my Sabbatical was academically challenging and fruitful for thinking and reflecting on the impact of design on optimising learning and addressing issues of poverty. The theme for the 2016 Venice Architecture Biennale "Reporting from the Front" was depicted in the following photo and description of the underlying theme of the Biennale Architettura 2016;

In his trip to South America, Bruce Chatwin encountered an old lady walking the desert carrying an aluminium ladder on her shoulder. It was German archaeologist Maria Reiche studying the Nazca lines. Standing on the ground, the stones did not make any sense; they were just random gravel. But from the height of the ladder those stones became a bird, a jaguar, a tree or a flower. Maria Reiche did not have the resources to rent a plane to study the lines from above, nor was there the technology to have a drone flying over the desert. But she was creative enough to still find a way to achieve her goal. The modest ladder is the proof that we shouldn't blame the harshness of constraints for our incapacity to do our job. ***Against scarcity: inventiveness.***

On the other hand, it is very likely that she could have afforded a car or a truck to drive around the desert, stand on the roof and look from a certain height; she would actually have been able to move around faster. But such a choice would have destroyed the object she was trying to study. So, there was a careful understanding of the reality and the means through which to take care of it. ***Against abundance: pertinence.***

We would like the XV VENICE ARCHITECTURE BIENNALE to offer a new point of view like the one Maria Reiche has on the ladder. Given the complexity and variety of challenges that architecture has to respond to, REPORTING FROM THE FRONT will be about listening to those that were able to gain some perspective and consequently are in the position to share some knowledge and experiences, inventiveness and pertinence with those of us standing on the ground.

As a Principal who took on the challenging task of an in debt, failing school I can relate to the desperate resourcefulness of archaeologist Maria Reiche's use of the simple technology to achieve the gigantic goal of the task before her. And given the complexity and variety of challenges that schools have to respond to, the purpose of this report hopes to use the perspective and wisdom of old woman Maria's ladder to share some knowledge and experiences, inventiveness and pertinence about designing and developing inspirational Learning Landscapes in a poverty-impacted school.

Mountain View School has been used over the years as an information source and reference point for many people, groups and institutions both within the educational sector locally, nationally, and internationally, and a wider sector of the general community and other government or corporate groups. The purpose of this sabbatical is to further document the process and development of the innovative learning landscapes at Mountain View School for our community and as a resource for other schools and communities who are designing their own spaces. The visual language aspects of the change process generally receive scant attention. Visual Language can convey both overt and covert messages and it is often imbued with symbolism. The power of visual language is frequently undervalued as a change agent but closer examination of Learning Landscape developments shows the positive effects on a poverty-impacted school.

Some General / Key factors in the Learning Landscapes Transformation Process of a Poverty-Impacted School

On reflection there seem to be some givens in transforming a poverty-impacted failing school to a high achieving successful school. For Mountain View School there was a need to:

- Have an overriding, primary driving focus or sense of purpose, that is, an all-consuming obsession preferably which everyone can relate to – CHILDREN. For us it was social justice - simply wanting the best education for our decile 1 poverty-impacted children.
  Children do not deserve a poverty-impacted school especially children whose low socio-economic circumstances already promote deprivation. It is just not fair and fairness is generally touted as a New Zealand value.
- Have a Dream/Vision way beyond the current reality and a healthy disregard for impossibility, negativity, and challenge. The dream/vision must be shared, actioned and celebrated.
- Accept change as an absolute necessity. There must be zero acceptance of a poverty-impacted school.
- Be innovative – poverty-impacted schools cannot afford to continue to regurgitate and recycle old failing premises / assumptions, processes / methods / procedures, and systems and structures.
- Instigate rigorous research-based learning/assessment cycles and home school shared accountability partnerships
- Harness emotions/feelings to energize/power action and maintain energy/drive. Emotions/feelings such as aroha, compassion, joy, anger etc. are important activators and can be used positively to energise and sustain development. A sense of injustice and unfairness in the inequality for decile 1 poverty-impacted children in a poverty-impacted school can arouse anger or compassion resulting in positive actions. Likewise the delight, excitement, joy, satisfaction of the children can be a powerful motivator in sustaining drive. Being dispassionate is not always the best answer for educational achievement.
- Ask negative as well as positive questions e.g.
  What <u>don't</u> children need?
  A poverty-impacted school that is dirty, ugly, not culturally relevant, in debt, poorly resourced, with very inadequate and inappropriate facilities and an expectation and acceptance of failure and inadequacy.
  Controlling institutions and systems (Government, Ministry of Education, Education Review Office) that <u>do not</u> acknowledge and adequately address the damaging impact of poverty.
  What <u>do</u> children in a poverty-impacted school need to flourish?
  Children need nurturing, stimulating and challenging learning environments for growth and development that provide security and affirmation, happiness and inspiration and a sense of community. They need well researched effective teaching learning programmes that are family inclusive and promote accelerated learning
  Controlling institutions and systems (Government, Ministry of Education, Education Review Office) that <u>do</u> acknowledge and adequately address the damaging impact of poverty.
- Have Mentors outside the Primary School System who provide exposure to alternative systems and organization.
- Acknowledge the principle of models of and models for reality (Geertz 1973) i.e. Models of reality are presuppositions or assumptions about reality, that is, the models about the world that people have in their heads. Models for reality shape reality to understanding by focusing

on aspects of empirical evidence, that is, those models of reality (existing understandings of the world). Consequently if we can change the models for reality we may be able to change the models of reality. Howard Gardner (2004) says that the most important thing to do in changing someone's mind is connect to their reality as the point of departure for change.

- Create Learning Landscapes that change models of and models for reality. If we surround children with models for reality of excellence and innovation in a learning environment that incorporates hard work and challenge, creativity and beauty, colour and vibrancy, knowledge and values and leadership opportunities, excitement and fun with clear expectations and evidence of achievement and success then we will have provided alternative realities for children's aspirations and life goals.
- Recognise that structure denotes and promotes the functions of a school, therefore, all structures and systems need to be interrogated to ensure they are promoting the desired functions. A structure or a system should not be dependent on a particular person to function effectively but should be established as an integral part of the limned learning landscape.
- Be cognizant of the implication of the Winstone Churchill quote "We shape our buildings; thereafter they shape us"
- Have School Governance and Leadership prepared to be committed to staying the course of time to see Learning Landscape developments completed and be accountable for the immediate and long term effects including challenging the status quo and establishment on existing policies and practises that retard poverty-impacted schools.
- A long term strategic view that is non-political and focussed on the best for children regardless of scarcity of supply or a change of educational policies for economic or political reasons.

Schooling Improvement/Reform Issues

In schooling improvement or schooling reform there is often a tendency to emphasize the change focus too narrowly e.g. leadership, and/or results-based student achievement, and/or teacher development, and school reform mostly directed to "inside" the classroom in an attempt to find the "magic bullet". The whole and more subtle interconnections are not closely scrutinized. The 'big picture' is often not big enough. The New Zealand Ministry of Education stops at the school gate. They fund and construct buildings and school environments to deal with the children within a school not the community. But, the children are part of families that are part of the community.

Even within the Ministry of Education's restricted lens of 'inside the school gate' their focus can be narrow and formulaic, on square metres per pupil ratio, and historical and perceived differences between teaching facilities for Primary, Intermediate and Secondary schools. Intermediate and Secondary schools are entitled to be government-funded for a school hall whilst Primary schools are not funded for school hall buildings. Student and Community assembly or gathering places are considered part of the Ministry of Education basic school building allocation for 11 year old to 18 year old Intermediate and Secondary School students and are paid for by the Ministry. But school hall buildings are not deemed necessary for children and families of 5 to 10 year old primary school students and there is no Ministry of Education funding for primary school halls. Consequently Primary Schools that believe in the educational advantage of having a school hall for their children and community to gather/assemble to enhance learning and development have to fund the building themselves.

Mountain View School had to fundraise over $2 million dollars totally independently of Ministry of Education funding to provide much-needed Events Centre facilities for their decile 1 poverty-impacted community. The current New Zealand Ministry of Education trend of constructing Innovative Learning Environments has become more focused on trying to construct facilities to facilitate teaching and enhance student learning, however there are still no ratio changes or additional poverty- impacted compensations for buildings or school site learning landscapes. Education researchers also tend to spend more time researching inside the classroom than outside in the playground. It is easier to measure academic results than attitudes and to observe parts in isolation rather than the holistic context of the school day, week, year. In the search for objectivity the value of subjectivity as possible solutions to problems can be neglected.

When a school is failing it is generally a breakdown in multiple areas and 'fixing' each of these areas may or may not 'mend' the school. However a poverty-impacted failing school cannot afford to just be mended. In order to recover the time lost during the period of failure a total

transformation needs to occur and be sustained. This requires intense examination of the functions of a quality school learning environment, the structures and systems that need to be in place to facilitate that functioning, and examination of the relationship of the inter-connections between those structures and functions. The big picture has to be very big. It has to be centred on the child as a learner and encompass as many aspects that impinge upon that learner as possible. When the school is located in a low socio-economic area where educational resources, facilities and opportunities are meagre, to say the least, it is incumbent upon the school/community/government to redress the imbalance. This usually necessitates opening or going beyond the school gate.

At Mountain View School it was certainly necessary to go beyond the school gate for many reasons. There was little point in continuing the school in the same way or following the bureaucratic guidelines and procedures of the Ministry of Education as that had led to massive failure and children and families were suffering. There was no money because the school was in debt, the Ministry did not give top ups, and the families were so poor that any form of school fees or donations were stopped in an attempt to alleviate family financial situations. The generosity of the wider community in donating goods, services and/or funds was critical to turning the school around. All new developments needed to consider the community not just the school. The school draws upon a diverse range of cultures for its students, predominantly Tangata Whenua Maori and Pasifika communities. Therefore the development of major facilities such as the Te Papa Tuhono Amphitheatre, Native Bush and Events Centre, Te Pou Matauranga Library ICT Centre and Silasila Modern Learning Environment were constructed to be community inclusive. See Appendix 1: SCNZ article The Vision of Mountain View School.

These developments which symbolised beacons of hope in a poverty-impacted school and community simply could not have been achieved to the quality of the outstanding end-products for the monetary costs actually incurred without the massive support and generosity of the community. The wider community contributed willingly because they could relate to the moral purpose of improving poverty-impacted schooling and the importance of developing high quality facilities and resources and restoring equity to the most inequitable groups of our society. Poverty-impacted schools cannot afford to be mediocre in any aspect of our endeavours or the majority of our children will most certainly fail. Their educational progress must be accelerated if they are to catch up to the bunch let alone pass them. We believe quality education is the key to escaping the poverty cycle. However, quality education does not come cheap. An enriching learning environment is costly to achieve in time, commitment, and in money.

Background and rationale

School Property as a Change Agent

Property plays a very large role in the public perception of a school or area. The dilapidated state of property and associated ugliness are some of the defining factors of poverty. Communities are often judged as being poor by the appearance of the properties in the area and the lack of progressive and innovative facilities, inspiring buildings and the element of beauty. Consequently Property can also act as a Change Agent to redress past imbalance, change perceptions and send positive messages to a poverty-labelled community to break the poverty cycle. Poverty-impacted School Properties need to spearhead this change in the poverty cycle by constructing inspirational buildings and developing Learning Landscapes that are Change Agents for the children and community.

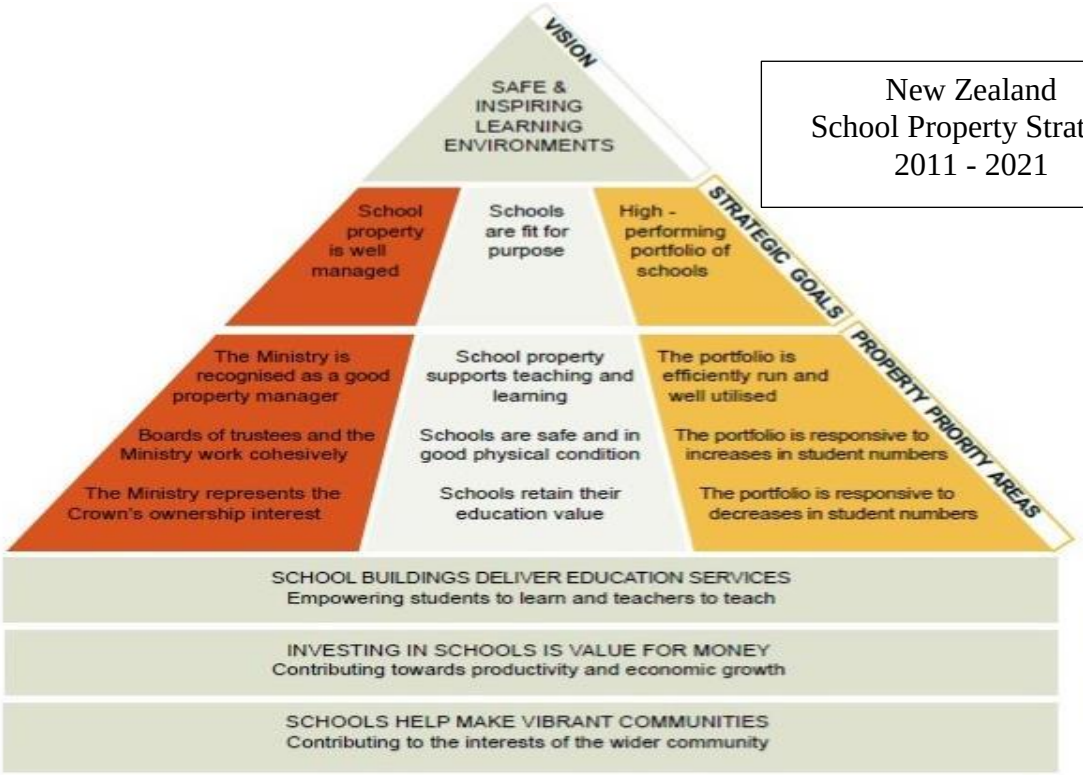
Ministry of Education Goals and Property Strategy

The New Zealand Ministry of Education Property Sector has no explicit goals or policies for redressing New Zealand poverty issues through change agent school buildings, facilities and infrastructure designs as, in Auckland in particular, most of the government and Ministry's focus and funding has been dealing with roll growth. Priorities and policies on roll growth and leaky buildings have dominated the government and its ensuing Ministry of Education Property policies and budget funding allocations at "the expense of whole-of-portfolio view of the school property" (See Auditor General Report, 2017, page 5 "*Managing the school property portfolio*" http://www.oag.govt.nz/2017/school-property/docs/school-property.pdf)

All three of the major building projects designs and constructions (Te Pou Matauranga Library ICT Centre, Te Papa Tuhono Events Centre and Silasila Modern/Innovative Learning Environment) were self-managed by Mountain View School under the current leadership and all three projects encountered initial resistance from the Ministry of Education. Before the Ministry of Education would sign approval for each of the 3 projects, they required extensive convincing about the pedagogical and equity issues and poverty-impacted needs these school buildings needed to address. This pedagogical convincing was still necessary despite the additional funding raised by the school and community to accommodate change agent, pedagogical excellence and equity factors in the new buildings for Mountain View School. However the property design information from the New Zealand Ministry of Education (2014) now states:

> The majority of school buildings were built between 1950 and the 70s. Since then, teaching practice and student learning needs have changed significantly. New technologies and building materials allow for new, vibrant and well connected learning spaces. All students deserve to be taught in these new innovative learning environments, and benefit from new teaching methods.

Inherent in the New Zealand Ministry of Education's (2007) vision that young people "*will be confident connected, actively involved, and lifelong learners" (p.8)* is the expectation that learners will change the ways they learn; teachers will adopt new teaching strategies; and that school environments will be adapted /modernised to enable this change of pedagogy to occur. Further evidence of this expectation is seen in the goal of The New Zealand School Property Strategy to have all New Zealand schools 'fit for purpose' - i.e. modern, innovative learning environments – by 2021.



New Zealand
School Property Strategy
2011 - 2021

One of the questions this sabbatical report has sought to explore further in regards to planning and designing school property is do we want to design and construct buildings that merely house school children? Or, do we want to design and construct buildings that as entities in themselves educate school children and promote lifelong learning?

OECD guidelines for learning environments The Organisation for Economic Cooperation and Development (OECD) global research on education examined school learning environments in terms of designing environments for addressing pedagogical issues and optimising student learning and Dr Julia Atkin (OECD, Pg 59) identified "a set of 10 guidelines for consideration to use when reflecting upon learning environments:

1. *Promote learning for students, professionals and the wider community through active investigation, social interaction, and collaboration*
2. *Support a full range of learning and teaching strategies from direct explicit instruction to facilitation of inquiry to virtual connection and communication*
3. *Support disciplinary and interdisciplinary learning*
4. *Integrated resource rich, special purpose spaces with flexible, adaptable multipurpose spaces to provide a dynamic workshop for learning*
5. *Support individual, 1-1, small group and larger group learning*
6. *Are age-stage apropriate*
7. *Facilitate learning anywhere, anytime, by any means, through seamless access to ICT, distribution of learning resources for ease of access in learningspaces and accessibility beyond the traditionally defined school day*
8. *Activate and invigorate learning spaces – indoor and outdoor*
9. *Inspire participation in, and responsibility for, the learner's community*
10. *Enable all aspects of the buildings, building design and outdoor spaces to be learning tools in themselves."*

These pedagogical guidelines align with the resolving of pedagogical issues in designing the Mountain View School Building Project developments and Learning Landscapes. Never-the-less although the above OECD set of 10 learning environments guidelines includes a consideration to enable all aspects of the buildings, building design and outdoor spaces to be learning tools in themselves, and, the New Zealand Ministry of Education's vision of safe and inspiring learning environments where young people will be confident, connected, actively involved, and lifelong learners and both infer that design has an impact on optimising learning neither of these organisations specify, advocate or elaborate school property as change agents for poverty-impacted communities and schools.

The Importance of the Aesthetic component of life-long learning

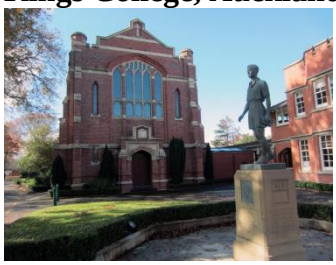
The importance of the aesthetic component of life-long learning should not be underestimated in developing high quality educational environments in poverty-impacted schools. The human spirit responds to beauty, colour and creativity and school environments should epitomise these factors and provide inspiration for children as future leaders. Private schools for the elite and future British and International leaders have been aware of this for centuries and this is reflected in the designs of their inspirational educational institution school buildings. Visits to International Private Schools like Harrow School and Eton College were enlightening in demonstrating the magnificent school buildings provided for the wealthy and influential strata of British society. Students from these Private Schools are renowned for their world leadership positions and are schooled in inspirational buildings and settings as the following photos demonstrate.

Harrow School, Harrow on the Hill, England

Eton College, Windsor, England

Designs of New Zealand Private Schools, for example, Kings College and St Cuthbert's also reflect an understanding of the public perception of property as a status signifier and the intrinsic value of inspirational and beautiful buildings and settings as educational components for future leaders.

Kings College, Auckland, New Zealand



St Cuthberts College, Auckland, New Zealand


The importance of the aesthetic component of life-long learning should not just be for the school children of the wealthy section of New Zealand society but fairness and equity demands the aesthetic component of life-long learning be apparent in poverty-impacted schools too. See Appendix 2 Case Study - "Ghetto" School Fence versus Aesthetic Component Insistence.

If we want our children to appreciate goodness, beauty and the wonder of the world and to protect our environment we need to surround them in beauty, surprise and challenge. Landscapes and architecture can create such learning environments. Schools should be enjoyable places. They should be places that provoke curiosity and broadcast messages that learning can be fun. A passion for learning can nourish a longing for living. If all our children truly believed they really mattered and the world could really be changed then our society would abound in positive energy. With the UNICEF child welfare report (Stuff NZ News website 2017) showing New Zealand having the worst teen suicide rate in the developed world between 2009-2013 and the problem of youth suicide effecting even younger children, educational institutions need to tend to the survival of our future generations by investing in, and creating healthy, inspirational school learning environments. Cass Gilbert the architect who designed the United States Custom House now the Smithsonian Museum New York (constructed 1900 -1907) stated Public buildings should:

> Serve as an inspiration towards patriotism and good citizenship. Public buildings should encourage just pride in the state and be an education to oncoming generations to see these things, imponderable elements of life and character, set before the people for their enjoyment and betterment. The educational value alone is worth to the state far more than its cost. It supplements the education furnished by the public school, the university and is a symbol of the civilization, culture, and ideals of our country.

Effects of developing a high quality school learning environment on learning outcomes

Mountain View School's vision for change was based on the belief that learning outcomes are directly influenced by the quality of the learning environment, and that the pedagogical knowledge of the process needed to establish high quality learning environments is crucial to schooling improvement. It is important to understand that the current Mountain View School environment is not just a 'pretty' environment. It is specifically designed to motivate and stimulate learning. Learning is linked inside and outside the classroom. Each area of the school environment has specific learning outcomes for children, teachers, and families to discover and rediscover, to

challenge thinking, to promote personal, community and cultural values. See Appendix 3 Mountain View School Exterior Learning landscapes.

If children come to school disadvantaged through a mismatch between the informal learning of their home and culture - the personal domain (Akinnaso,1992,Ladson-Billings,1995), and the formal learning of the school as an institution - the public domain, (Brown-Jeffy & Cooper, 2011), then it is necessary recognise the cultural dissonance, to increase the exposure and opportunities to learn and accelerate the learning, hence closing the knowledge gap and reducing the disparities between middle-income and low-income children. Providing more equable educational opportunities and resources in poverty-impacted schools can redress the social imbalance and the cultural dissonance of formal schooling institutions. Contemporary theories and research informed by the Reggio Emilia approach in the work of Loris Malaguzzi, recognise and value the environment as a 'third teacher'. Designing high quality learning environments to optimise learning in poverty-impacted schools can help ameliorate the negative effects of poverty on children's educational opportunities and resource and address the equity deficits to accelerate student achievement.

Findings and Implications

Poverty-Impacted School Change Factors/Considerations

Cultural Landscape

Schools need to be cognisant of their communities and the importance of cultural landscape when considering change. Auckland as a city has a global uniqueness in being a 'city of 100 volcanoes'. People around the world are amazed that Mountain View School is sited on the slopes of a volcano. For Maori and many Aucklanders from the top of the maunga/mountain to the sea are special landmarks that are all part of their identification beacons. Our volcanos are symbols of our land - mountain and sea, sea and mountain. The views to the Volcanoes of Auckland are intrinsically precious to Aucklanders. The volcanoes are the landmarks that we identify with. They are our spiritual compass. Losing or diminishing these views would negatively impact on the historical, social and emotional aspects of our lives.

This is true for the community surrounding Mangere Mountain and the children and community of Mountain View School. Mountains are geographic points of reference and part of the human geography or the patterns on the land that shape people as humans and form a geographic cultural compass. Carl O. Sauer, a human geographer, developed the concept of "*cultural landscape*" to show that the physical environment retains a central significance, as the medium with and through which human cultures act. His classic definition of a 'cultural landscape' reads as follows: "The cultural landscape is fashioned from a natural landscape by a cultural group. Culture is the agent, the natural area is the medium, the cultural landscape is the result."

The World Heritage Committee's adoption and use of the concept of 'cultural landscapes' has seen multiple specialists around the world, and many nations identifying 'cultural landscapes', assessing 'cultural landscapes', heritage listing 'cultural landscapes', managing 'cultural landscapes', and effectively making 'cultural landscapes' known and visible to the world, with very practical ramifications and challenges. A 2006 academic review of the combined efforts of the World Heritage Committee, multiple specialists around the world, and nations, to apply the concept of 'cultural landscapes', observed and concluded that:

> Although the concept of landscape has been unhooked for some time from its original art associations. …there is still a dominant view of landscapes as an inscribed surface, akin to a map or a text, from which cultural meaning and social forms can simply be read.

The general view purported in the field of study is that any system of interaction between human activity and natural habitat is regarded as a cultural landscape. Cultural Landscape becomes the framework, the point of reference.

Integral to all of the transformation of learning spaces in Mountain View School is the adjacent Mangere Mountain, which has significant historical, cultural and spiritual importance for the school community**.** The school children changed the name of the school because they thought the most significant factor about the school was its place on the slopes of Mangere Mountain. The original name given to the school by the Department of Education when they built the school in 1963 was "Miller Road School". Presumably named Miller Road School by the Department of Education because the school is bounded by both Miller Road and Mountain Road, but, the main entrance and postal address for the school has always been Mountain Road not Miller Road. In the 1980s the school held a competition among the pupils of the time to rename the school and the winning name was Mountain View School. As the school is located on the slopes of the Mangere Mountain volcano and the main entrance faces this mountain, and, given the cultural significance of the mountain to the community, the children's choice of name for the school was considered more appropriate than the previous Department of Education's designated school name. Referencing Mountain View School to its cultural landscape links the children, community and school to their cultural anchors - the wayfinders like the mountain, the sea, the marae, and then to our school with cultural signifiers like Taniwha of Learning upon entering the school gate, Te Pou Matauranga, Te Papa Tuhono and Silasila. Mangere Mountain is part of the Mountain View School cultural landscape for the school children and community and is a referent in their daily lives physically and spiritually. It is part of their inspirational sustenance. Incorporating Whakatauki/Proverbs like **-** *"Whaia te iti kahurangi, me tuohu koe he maunga teitei" Seek that which is most precious. If you bow your head, let it be to a lofty mountain* - into Mountain View School's vision and values helps to reconnect and reference the school to the mountain so the children can draw on this source to aspire to educational excellence.

The Maunga (Mangere Mountain) is a significant feature embedded into the wairua and everyday activities of Mountain View School. The children of Mountain View School see themselves as guardians of the mountain and the Maunga is an integral part of their school and family lives. The children undertake studies about the mountain. They do archaeological tours with the Department of Conservation, Auckland Council and University Archaeologists. They have made several murals of the different faces of the mountain, the different scenes around the mountain and the different views of the mountain from different parts of Auckland. Nowadays Mangere Mountain is so important to Mountain View School that new buildings and developments have been specifically designed to emphasize and align with this volcano that looms above the school site. The volcanic rock shelves and boulders from the original eruption create (often expensive) problems every time developments or improvements are undertaken to transform the Mountain View School site. Cultural landscape is a concept that can be emphasized in school property developments to integrate the community back into the school and provide inspirational aesthetic components of life-long learning. The Mangere Mountain volcanic rock is a visual reminder of the power, strength and resilience of the volcano and of our maunga/mountain. Consequently in the transformation of this poverty-impacted school the Mangere Mountain volcanic rock from the school site was constantly used to landscape and enhance the Mountain View School site and buildings and reference the school to the mountain. Firstly for the terraced seating and stage of the Amphitheatre, then to highlight the volcanic connections volcanic rock walls were used as cladding on Te Pou Matauranga the new Library ICT building entrance and Auditorium, and also to contain, frame and enhance the Golden Totara Tree Prince Charles planted for the children. Finally the Mangere Mountain Volcanic rock was used to link the Te Papa Tuhono Events Centre and the new Silasila boulder building complex

with the rest of the school by creating volcanic rock walls, terraces, boxed gardens and a large volcanic rock water feature in the Entrance Atrium using the volcanic rock excavated from the Mountain View School site. In addition significant volcanic rock forms were also kept and used to create a Stone Circle for seasonal measurement of time and ancestral links. See Appendix 4. Cultural Landscape Links - Mangere Mountain volcanic rock constructions at Mountain View School.

Ongoing Strategic Review and Diagnostic Mindset of Total School Property for Optimising Learning

The 2017 Office of the Auditor General Report on Ministry of Education property management "*Managing the school property portfolio*" states:

> The learning Environment is a critical component of a student's educational success. The assets that make up the school property portfolio are inextricably tied to providing effective education. It is important that the school property portfolio is well managed and everyone involved clearly understands how to best invest in the school property portfolio to support educational outcomes. (p.3)

The Auditor General stated that:

> There is only limited consideration of property matters in the Ministry's accountability documents, strategic planning, risk management, and performance information framework. Property is seen by the Ministry as infrastructure supporting schools. There is no direct link made by the Ministry to how good property management can positively affect educational outcomes. We consider that property is more than bricks and mortar. It is critical to educational success. The Ministry needs to better integrate its property function with the rest of its core business. (p.3)

The Auditor General further noted, as factors that may prevent the Ministry from making the best use of the Crown's property investments, that "We saw no evidence that the Ministry uses its whole-of-portfolio view of the condition of school property for decision-making" (p.4).

This apparent failing of the New Zealand Ministry of Education to account for the detrimental impact/effects of school property deficits on poor student achievement may reflect the segmentation within the Ministry of Education structure and the lack of a diagnostic mindset in whole-school improvement or developments. Heifetz and Linsky (2002: 2-3) state, "Leadership is an improvisational art… You have to maintain a diagnostic mindset on a changing reality".

In elaborating this aspect of effective leadership of the change process Fullan (2003a:100) states, "This means gaining perspective on the problem, linking to the bigger picture, and periodically stepping back from the action. It involves trying to be in two places at once – in the midst of action and above it". A diagnostic mindset focusing on the big picture as well as tending to the minutiae was certainly necessary to change Mountain View School from a poverty-impacted failing school to a successful school but constancy and long term commitment of key personnel were also significant factors in effecting change especially considering the constant change in other New Zealand government institutions like the Ministry of Education and the pressures of the political interference in education requiring changes of policies for economic or political reasons which can happen several times during the development of a school project. A cross-sector diagnostic mindset on a changing reality would be an effective strategy for the Ministry of Education in following the Auditor General's recommendation to "better integrate its property function with the rest of its core business."

At Mountain View School ongoing Strategic Review of the total school property internal and external was essential to determine the barriers to student learning, but, developing a vision to address issues of poverty in the school community and optimise learning was crucial in transforming the school from a failing school to a successful school. A key characteristic required in realising a vision over a long period of time is resilience. Resilience refers to the ability of a system and its various components to anticipate, cope, and recover from states of impending and actual danger without collapsing, while swiftly and efficiently adapting itself to new situations through complex processes of learning and implementation. The Strategic Review of the Mountain View School site used evaluation categories of Health & Safety; Functionality;

Pedagogy; Aesthetics Artistic dimensions and Cultural Landscape of the School Community to vision the ideal school to be able to take opportunities to address issues when they arose and reform and progress long term goals as government policies changed. A cohesive school site results from extensive examination of all aspects of school property and intensive involvement of those actively involved in the life of the school - staff, children, families. Dreams and extremes were encouraged to break away from the prevailing negative views of poverty-impacted areas (Can't plant trees and gardens they will just be destroyed - Can't have artwork it will be wrecked or stolen – Can't have beautiful buildings they won't be looked after – Can't stop gang fights in the playground – Can't stop vandalism – Can't improve student achievement), and inspirational goals and vision incorporating artistic and cultural landscape dimensions were demanded. School site strategic reviews need to be ongoing and bold and consider what needs moving, removing, and/or replacing? What has changed in 50 years? What is possible now? What might be possible in the future? And with any new school development it is important to try and future 50 years ahead for possible changing learning/community needs.

Total Property Ongoing Strategic Review is a chance to mitigate negative factors, such as wind and sun factors as they actually play out on the school site and effect children, and it is a chance to optimise children's lives and learning by creating happiness. It is difficult to learn if you are not safe and not happy. Poverty-impacted Schools can provide those conditions for learning – safety and happiness. For almost two decades the Mountain View School Principal and Board of Trustees focused on changing the previous inadequacies of the school's structures and functions by changing, improving and developing the Educational Infrastructure capacity of Mountain View School to ensure the physical, emotional, cultural, spiritual and intellectual needs of students and families were met, thus increasing the capability to deliver the New Zealand Curriculum at a much higher standard to the children in our community and improve student learning, engagement, and accelerate student progress and achievement. (Refer Ministry of Education National Standards Reports and student achievements in The Board of Trustees Mountain View School Charter and Annual Reports www.mountainviewmangere.school.nz).

The initial Sustainability and Capability developments of relocating the school car park, fencing and increasing and improving the playing/sporting /performing areas by remodelling the grounds to create a rock wall tiered seating Amphitheatre with outdoor stage sound and lighting were developments which eliminated serious safety issues that were causing the community concern. The development of other Mountain View School Learning Landscapes -Native Bush, Millennium Maze, Olive Grove, Wishing Tree, Hexagon Vegetable garden and other gardens, landscaping and artworks fostered the wairua of the school and community. Cultural and community inclusiveness are embedded into the design elements of Mountain View School and celebrate the multicultural dimensions of the local community.

History of Mountain View School Building Changes/Development


First major change of Mountain View School buildings and locations – new Carpark, Native Bush and Amphitheatre developments. The Amphitheatre is excavated alongside 3 prefabs scattered along ridge by the original Mountain View School building locations and the old school hall is still located away from the road by the top field.


Second major change – Construction of the Library ICT Complex by classroom blocks and the 3 Prefabs moved from front of school to the back by the top field replacing the old hall which is moved alongside the tennis court for roadside access.


Third major change - Construction of the Events Centre beside the Amphitheatre with direct roadside access, and conversion of the old Hall to Technology and kitchen/dining area. The Amphitheatre was then rebuilt to align with new Events Centre.


Fourth major change - Demolition and reconstruction of Administration, Property & Classrooms to Silasila Innovative Learning Environment & removal of all prefabs from Mountain View School site.

School Buildings as Change Agents and addressing equity issues

School Buildings can act as change agents and all three of the major new buildings constructed on the Mountain View School site were designed as change agents to address poverty issues in the community and to optimise learning.

Te Pou Matauranga Library ICT Centre

The Library ICT Centre was designed as a Learning Beacon linking the community to the school establishing the concept of partnerships between home and school and the wider community. This building was specifically designed recognising the way the poverty issues in the community impacted on the school, and was designed to address these pedagogical issues and learning needs arising from families being too poor to have books and computers in their homes (57% had 1 or less books and 79% had no computers in their homes). Therefore the Mountain View School Library ICT Centre, named Te Pou Matauranga – The Learning Beacon, was specifically designed to address the pedagogical issues and optimise learning by integrating the Oral, Written and Visual Language strands into the component parts and functions of the total building. The Library ICT Centre building incorporates and interlinks a library, indoor reading conservatory and outdoor courtyard, an indoor auditorium, a library workroom, a research office, an ICT computer suite classroom, an upstairs Teacher/Student workroom and resource and server rooms with networked computers throughout. This Architecture Award-winning multipurpose complex caters for all aspects of the curriculum and compensates for the lack of these facilities and resources in the poverty-impacted community. School families can bring their pre-schoolers to share the school's Picture Books in the Reading Conservatory and the Library's culturally inclusive and relevant Maori and Pasifika sections. Archaeologist Ian Lawlor donated his collection of New Zealand Books (some quite rare) for community use. Computers and Teaching screens were organised and grouped in more culturally-appropriate, collaborative modes of learning where families and children can work together and share intergenerational knowledge. The building was deliberated orientated to Mangere Mountain with inside outside learning links to emphasize that learning was prevalent all around the school site not just in the classrooms.

Te Pou Matauranga Library ICT Centre infrastructure development had the primary goal of designing a school building whereby the structure of the building itself would actively promote Oral, Written and Visual language learning for students and community and compensate for the poverty deficits of no books and computers in the homes. Thus working towards closing student achievement gaps between lower and higher socio-economic groups. Incorporating the Library, Auditorium, Conservatory, ICT and Literacy Research and Resource Management into the design space and integrating the oral, written and visual languages processes within one building has impacted positively on both curriculum delivery and teaching and learning change factors. Design has the capability of influencing learning and lives in terms of accessibility, teaching and learning styles, for students, staff and community and can be transformative. The Library ICT Centre became the learning Beacon (Te Pou Matauranga) for the school, changing perceptions for students and community alike. It was also the centre for the continued Literacy research to not just improve, but accelerate student achievement evidenced in the progression over time Trends Tables which show consistently upward trends across 5 and 7 year periods across different components of the literacy acquisition and development process (Refer Mountain View School Annual report www.mountainviewmangere.school.nz).



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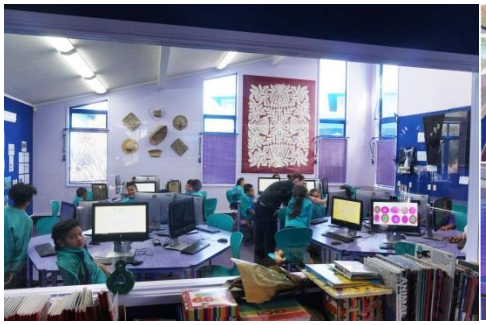


Te Papa Tuhono Events Centre

The second Change Agent building Mountain View School self-managed was the Events Centre Te Papa Tuhono (the joining together of the people). As discussed previously School Halls are not part of the Ministry of Education's Property Portfolio for Primary Schools. However the demand for this building came from the community. When Mountain View School won the Goodman Fielder "Best Overall School in New Zealand" part of the prize for the winning school was $50,000. Fifty thousand dollars is a lot of money for a decile 1 poverty-impacted school and when the community was consulted about what they wanted with the prize money they overwhelmingly requested a Community Centre to get their children off the streets and away from the negative influences of gangs. Community needs aligned with the pedagogical needs of Mountain View School. Curriculum design, enactment and review to further student learning showed a need to improve and provide facilities for quality delivery of other New Zealand Curriculum Essential Learning Areas - Health & Physical Education, Technology, Science, Social Studies and The Arts. Consequently the Events Centre and remodelled Amphitheatre developments were designed to overcome previous inadequate amenities and resources which were impacting upon student achievement. In keeping with the school's strategic review categories the Events Centre building was also designed to reflect and celebrate the multicultural dimensions of the children and local community, and to cater for the increasing physical and health needs of the children and families (e.g. the Let's Beat Diabetes Inter-agency group), as well as the social and cultural needs of the community. Needless to say the $50,000 Best School prize money was not going to achieve an adequate Community Centre or School Hall and it was a mammoth task for the school to raise the $2 million plus dollars funding to construct an exceptional centre of excellence for our low decile poverty-impacted school and community.

The Te Papa Tuhono Events Centre facility greatly enhances educational resources as it incorporates a recreation centre with sports store, showers and toilets; a Performing Arts Theatre with green rooms and stage store; and a Food Technology wharekai /dining room/ creative arts area with a kitchen and art store attached to the Events Centre's Pacifika Wave verandah that provides sun and rain shelter for children, families and visitors and flows out to a bricked courtyard which is surrounded by seating/steps on 2 sides with concrete terrace steps on one side, as well as the volcanic rock wall terraces leading down the crater-like amphitheatre with the outdoor stage performance electrics and flood lights. The amphitheatre terraces have been realigned and reconstructed to promote indoor and outdoor sports and performance. The Te Papa Tuhono Events Centre is sited to view across the Amphitheatre to the Native Bush with its 135 labelled varieties of New Zealand Native Trees and Plants on one side and across the marae area to the view of Mangere Mountain. It provides a setting for community gatherings and events, and whole school assemblies, hui, karakia and extra curriculum activities such as music, dance, art, cultural group activities gym and sports.

The Aesthetic component of life-long learning was a key influence in designing this building for the school and community. The design and art work of the Events Centre reflects the multicultural community and was designed by the school and the community not the architect. The pillars supporting the Pasifika Wave Verandah have designs that represent different cultures in Mountain View School - Māori, Pasifika, Tongan, Cook Island, Niue, Samoan and others Thai, Chinese, Indian, Philippines, and Scotland. The interior also reflects the name Te Papa Tuhono the joining together/gathering place of the people with its wooden fishing net ceiling symbolising the interweaving and drawing together of many cultures in a common purpose/goal. Also the Pasifika designs in the Acoustic panels and the close-up and distant Mangere Mountain Views. LED lighting diamonds with changing light phases add to the theatrical effects and theatre components which were designed and constructed by Theatre specialists. The building is a focal point of the school environment and can be viewed and accessed from both Mountain and Miller Roads. This multipurpose facility provides a venue for positive in-school and after-hours engagement for our Mangere Community.

Silasila Innovative Learning Environment Boulders

The achievement of the Silasila Innovative/Modern Learning Environment building construction continued the School's ongoing strategic review of the infrastructure footprint of Mountain View School to develop change agent school building designs and Learning Landscapes that optimise learning and address issues of poverty. Mountain View School worked with the Ministry of Education on a long term roll growth development of a Modern Learning Environment with 9 new Teaching/ Learning Areas and new Administration and Property Management areas. The Ministry considered this to be a landmark project in that the exciting design focused on innovative ways of improving the delivery of school curriculum, school organisation and management functions and highlighted the significance of Mangere Mountain to the Mountain View School and community. The proximity and significance of the Mangere Mountain Volcanic cone is reflected in the design of the new buildings with 3 giant boulder shapes linked by 2 atriums and a roof garden linked to the existing Library ICT Centre with these links providing viewshafts to the Mountain. Another boulder shaped building is the Environment Infrastructure Boulder the relocated replacement property management area. The boulder shapes of the design are powerful reminders of rock emitted during volcanic eruptions. The old single-storeyed school administration and classroom block was demolished to construct the new multi-storeyed Silasila building adjacent to Te Pou Matauranga (the Learning Beacon) Library ICT Centre. Replacement of the single story Resource Room with a roof garden provided the link and upper level access from the new Silasila buildings to the upstairs workroom in the existing Library complex. Contrary to the Architects' demands for fawn or grey colour scheme the Silasila project has retained the existing exterior school colours symbolising blue for the sea and sky, green for the land and purple for the spirituality.



As previously stated, one of the important questions to explore in regards to planning and designing school property is do we want to design and construct buildings that merely house school children or design and construct buildings that as entities in themselves educate school children and promote lifelong learning? The vision of the Silasila Innovative Learning Environment design was to design school buildings by which the design juxtaposition itself provokes thought and metacognition and acts as an educational tool or instrument for learning. Silasila is not the same old square and rectangular boxes for classrooms that are routinely designed. It is a building that in itself, with its sloping, angled walls and windows, encourages the students to question models of reality, think outside the square, and provoke a curiosity to learn and problem solve the world around them. It is also a building that requires a "mind shift" for the teachers – from thinking of teaching/learning spaces as being the "Teacher's Classroom" to thinking of teaching/learning spaces as being the "Children's Learning Area". Teacher resource storage has been centralised in the new building with Curriculum Resource Store and a large purpose-built Resource Room and Senior Leadership offices. The Silasila Learning Area design also involves moving away from having a Teacher's black/whiteboard in a fixed place in the Learning Area/classroom and all teaching/learning being directed to the same place, (and having electrical/internet connections only available on 1 to 4 walls) to having mobile Teaching Learning stations and mobile Digital Screens that the students/teachers can move to any of 7 to 8 walls or the centre of the Learning Area thus promoting facilitative teaching/learning. The new mobile teaching/learning stations mobile Digital Screens also provide further Learning Area access to e-learning opportunities and digital resources. Likewise purchasing new furniture, equipment and other resources emphasizing the fact that the students can configure them to reflect their learning styles/needs and take

ownership of their learning environment. Changes in the structural form of the school continues to provoke ongoing review of Mountain View School systems, structures, processes and procedures to optimise student learning, curriculum design, enactment and review.

Up until the Silasila project the Mountain View School Administration Area had very outdated and inconvenient spaces and although the Admin area is the "engine room" of a school, facilities to promote student achievement in curriculum, such as, our Library ICT Centre and Events Centre took precedence as priority change agent buildings. Now the new Administration Boulder brings together the community and school practitioners in a highly functional structure that enables more effective and efficient delivery of school organisation and curriculum. The new administration boulder of the Silasila Learning Environment provides an easily observed Sick Bay covering health and safety and children's emotional security needs, and a community needs section for outside agencies including the introduction of school based Manukau Health Mana Kidz Rheumatic Fever programme with a Mana Kidz Nurse and health team based on the school site who are able to provide immediate medical care to students in need. Offices and a Meeting room are also incorporated within the Mountain View School Administration Boulder for other outside agencies such as Social Worker in Schools SWiSS who provides support to students and Whanau and Community. There are also purpose-built Distribution spaces for Manukau Health Fruit in Schools and Fonterra Milk in Schools programmes and Lunches distribution. These are all in addition to the usual needs of school administration such as offices for Administration and Senior Leadership staff, a Family room, Uniform, Curriculum and Archive Stores, each area having a door and carpet colour differentiation in the space to celebrate the diversity of staff and visitors. Upstairs in the Staffroom and Principal's Spaces the sweeping views of the Mountain, or over the Amphitheatre and the art work and artistic dimensions are designed to inspire hard work and transformation.

The Silasila Environment Infrastructure boulder is designed to meet current and future learning and property management needs. It has spaces for students to engage in woodwork/carving and environment studies learning as well as CAD drawing and technical design. Developing and managing the Environment Infrastructure of a school is essential for assisting governance capability to sustain ongoing improvement and promote progress and achievement for all students. This fourth Boulder is positioned at the top entrance to Mountain View School but clearly linking by architectural form to the Silasila building. It signals the approach to the change agent building and the importance of Environment Infrastructure in quality education. The complexity of the Silasila design and steel construction is outlined in the article in the engineering and Master Builders journal "Building Today" (see Appendix 1). It also reflects the importance of design in realising optimal teaching and learning conditions that can accelerate student achievement and advance quality education for all sectors of New Zealand society.

The significance of Mangere Mountain to our school and community is embedded into the concept design of this Silasila Building. The importance of Mangere Mountain is not just in the name of Mountain View School, but the fact that this Maunga is the spiritual compass for our school and community. Therefore the Silasila building needed to not only enhance views of that mountain, but provide viewshafts to that mountain for our surrounding community. The wider cultural landscape view is elaborated by the following description of the Mountain View School Silasila Boulders formulated by Pasifika staff which sums up the cultural connection for this school community group: '*The Silasila building is a huge achievement for Mountain View School and its community, especially Pacific families and their children. It is a Model of Excellence and it encourages the high expectation of success for Pacific children. The Silasila building aims to improve and accelerate children's learning especially Pacific children. It also provides a sense of belonging for the Pacific children and their families. The Silasila building promotes Pacific identity, language and culture of each Pacific group in the school. The name given to it is a Samoan name which means "to aspire to great heights and far-reaching accomplishments, and not let obstacles get in the way of overcoming challenges to achieve visionary goals" The Silasila building and the learning environment that surrounds the children contributes to students' potential to progress and achieve. At the beginning of this journey each Learning Area has been developed into a unique space with different shaped environments, as all learners are unique and different. The design is beyond the norm to demonstrate to our students that they deserve the best and can achieve their best – there is no limit to their learning. The open plan is significant to the Pacific community for this represents a village (nu'u) with open fale. The Tongan stonework that curves from the front gate of the school and through the Admin boulder Atrium and around to link with the existing stonework of the Amphitheatre forms and Pacific identity trail into the school complemented by the hibiscus shrubs in in the gardens encircling the boulders of the Silasila building forms and the artwork around and inside the Silasila building is culturally representative and encourages students to develop the ability, confidence and motivation to succeed academically when they participate competently as a result of having developed a secure sense of identity, and knowledge that their voice will be heard and respected within their learning environment. Pasifika students can feel a sense of ownership for the learning that goes on in their school learning environment. The achievement of this Silasila change-agent building through the commitment and effort, contribution and support of many people is a testament to the Pasifka name Silasila and the legacy for future generations.'*



The Silasila building developments along with the other Mountain View School change agent facilities such as the Library ICT Centre, Events Centre and Amphitheatre, have vastly improved and future proofed the school's ability to provide excellent educational opportunities to low decile poverty-impacted New Zealand Maori, Pacific Island and other students across all aspects of the curriculum. They have provided buildings of hope for a poverty-impacted community and can act as inspirational beacons for children on the pathway to life-long learning. Mountain View School has focused on researching and implementing diagnostic teaching learning programmes and family consultation and partnerships to accelerate student learning and achievement. However, having viewed the positive effects on student learning that the other Mountain View School Building and Environment projects the school has self-managed has engendered, the Board of Trustees is acutely aware of the impact property can have improving student achievement. Structure denotes and promotes function and if we want our Maori and Pacific Island students to accelerate beyond the New Zealand tail of failing students we must take extraordinary measures to provide both the best of programmes and the best of facilities to deliver quality educational experiences and outcomes for student achievement. As the Principal stated in the SCNZ article, (p.35) *"You get only one chance to provide a building that will make the community proud and meet its needs for the next 50 years. Buildings can represent beacons of hope, and Silasila is intended to engender aspirations of working hard together to build a better world by investing in our children as future leaders!"* (See Appendix1).

Pedagogical Issues and impact of design on optimising learning

Design has positive and negative impacts on teaching and learning. School Architects, Project Managers and Construction Teams do not have an in-depth knowledge of Pedagogy - the science of teaching, and pedagogical issues need to be addressed by the Pedagogy experts in both the planning and construction phases or the pedagogical issues become the expedients to "build" problems or cost factors. Teacher Practitioners are usually more knowledgeable about the practicalities of children's movements, activities and learning processes than School Architects, Project Managers and Construction Teams. The most valuable exercise for Mountain View School in developing the plans for all three of the major building projects – library, hall and admin and classrooms was the visits to other schools to ask school staff, who had built and used these types of buildings about the functionality, as they tend to be the best critics. Pre-design visits to schools were most informative about what NOT to do and how to prevent it happening in the architect's plans and on the construction Site. While Mountain View School has been privileged to have worked with some visionary, knowledgeable and supportive Ministry of Education Property Advisers over the years this is not always the case. Schools know their community, know pedagogy and know how to optimise learning. A combination of experienced and knowledgeable personnel with a very high level of Pedagogical, Architectural and Construction expertise is necessary for construction of optimum school buildings. Omission of any of those qualifications or experience reduces the chances of optimising learning and student achievement.

The quality of sound is extremely important in teaching/learning situations and excellent acoustics are critical for an effectively functioning school. Hence specialist Acoustics Engineers need to be an essential part of a school build team. This generally does not happen in Ministry of Education funded School Building Projects, as although the Ministry provide acoustic guidelines the architect is expected to follow, they are general guidelines not specific to the needs of each project. Mountain View School fully funded, and therefore totally self-managed the Events Centre Project development and construction. Consequently, as the School Planning Team and Architect were in agreement about the multiple complications of the acoustics of a multipurpose building with the differing sound needs between performance and sporting activities, plus the community

factors, the school contracted and hired Marshall Day Acoustics as specialist Acoustic Engineers for the design and build. Working closely with the Acoustics Engineer proved illuminating about the extremely complex knowledge required to get the noise and sound factors correct in and around building spaces, and for the different purposes of sound. It also confirmed that a typical School Building Architect/Construction Team would not be able to access and apply the level of knowledge and expertise to construct a superbly acoustically functioning building. This required specialists highly trained and qualified in their field of Acoustic Engineering to be an integral part of the school building project process participating fully before, during and after construction. Acoustic Engineers have an in-depth knowledge, testing mechanisms and experience of the particular use and effects of construction materials and noise sound implications.

Employing a Specialist Acoustic Engineer for the Events Centre project proved so valuable and enhanced the effectiveness of these school facilities so much the school decided, given the innovation of the Silasila project design, it would be wise to use school fundraising and independently fund the highly qualified Acoustics Engineers, to fully inform all sectors of the team – school, architect, project manager, construction contractors, throughout the design and build process. Pedagogical factors can be expertly addressed by knowledgeable Acoustic Engineers. For example, too much use of Autex Vertiface wallboard which absorbs sound and is necessary for use in reverberating shared spaces like atriums is not necessarily the best acoustic product in a classroom or Learning Area where there needs to be a balanced room response across the speech frequency range and the teachers can project their voices without shouting. Appropriate sound insulation is also a pedagogical issue where sounds like rain and student movement can impede teaching and learning and Acoustic Engineer expertise can advocate a wider knowledge of roofing, ceiling and flooring sound insulation solutions.

During the construction of the Silasila Modern learning Environment project the School Principal had to battle with all the Architects, Project Manager and Construction Contractors team who in a cost-saving exercise wanted to reduce the amount of concrete between the floors of upstairs and downstairs classrooms, and as the thickness and amount of concrete is generally a hidden item, having less density of flooring was considered an expendable item. But, having had the experience of visiting schools with classrooms that were pedagogically dysfunctional, in terms of the noise of chairs scraping and people moving and talking upstairs which interrupted, disturbed, and perturbed teachers and children trying to work in classrooms downstairs, this pedagogical issue was a requirement for the Acoustic Design Plan and Report independently commissioned by Mountain View School for the Silasila project. Hence the school had the knowledge and access to the specialist acoustic expertise from the Marshal Day Acoustics Report to prevent being left with a pedagogically dysfunctional building which once the flooring concrete had been poured would not have been possible to remedy.

Architects say they are only as good as their brief. Therefore it is the school's job to prepare an Architectural Brief that informs and guides the architect on the pedagogical teaching and learning needs of each particular school, and that includes the cultural and aesthetic requirements of the school's children and community. The pedagogical issue of the height of classroom walls is very important, not just because of the practicalities of more air flow in a room full of children or adults, and for the sense of space and light, but, for providing more actual wall space for displaying more teaching and learning work and consequently contributing to being an active component of student learning. Theoretical models for learning are used by educators and teacher practitioners to examine structures and functions to optimize teaching and learning. Perhaps a greater focus on pedagogy and theoretical models for learning could be developed for School Property across the Total School Site to optimize student achievement. Brian Cambourne (1988) researched Conditions for Learning as it applies to Literacy Learning and perhaps some application of conditions for learning may improve designing and developing school property to optimize learning. Or, more regulated attention to the OECD Set of 10 guidelines to use for designing learning environments as outlined by Dr Julia Atkin (see previous OECD, Pg 59). Architects are usually well versed in designing for Ministry of Education requirements for functionality and health and safety but not always aware of pedagogical issues or some school practicalities as they apply to the everyday use of young children. Also architects, and the

Ministry of Education as the Auditor General documented, are not always aware of the strategic needs of the whole school portfolio.

Aesthetics in school environments are expendable. Although the inspirational dimension of aesthetics in life-long learning is recognised, it is viewed as an ideal not a requirement. Therefore the government and Ministry of Education do not fund it and school architects, property managers and construction contractors have no contractual requirement or funding for aesthetic artistic components. Because aesthetic, artistic, inspirational components of teaching and learning are not funded by the Ministry of Education they become expendable items - the first items off the list in the cost-cutting exercises that are an inevitable part of school developments, particularly in poverty-impacted schools. It is generally left to the school to determine or find opportunities, and/or funding, to develop aesthetic components and artistic dimensions to optimise learning in poverty-impacted schools. It is also left to the school to ensure that School Buildings, Environments and Learning Landscapes have authenticity, imagination, wit and delight. Architects working on school sites need to have the aesthetic component written into their Architectural Brief as a requirement of the school design. The three major buildings constructed on the Mountain View School site by the current Principal and Board of Trustees – Te Pou Matauranga Library ICT Centre, Te Papa Tuhono Events Centre and Silasila Modern Learning Environment Classroom Administration and Property building specified that the buildings had to be "architecturally stunning" in the actual Architectural Brief. Constant supervision of plans and construction by the school was still necessary to ensure both functional, and cultural and artistic dimensions of the school designs were met.

Mountain View School has many Aesthetic features that the Architects did not design in fact the school has used artistic dimensions to ameliorate Architects' mistakes. In Te Pou Matauranga Library ICT Centre the Architect's 'skinny' pole proportional problem was rectified by the creation of a carved pou Mountain View School commissioned.





The carved pou was erected around the Architect's "skinny pole" at the entrance to the Library ICT Centre to then make it the focal pillar on the approach to Te Pou Matauranga Library ICT Centre. The Pou can be seen from many parts of the school and the street and looks impressive from every angle.

The design of the carved pou Te Pou Matauranga The Learning Beacon symbolises three stages of learning and the three baskets of knowledge. The first stage represents the family, the foundation of nurturing teaching and learning - the first basket of knowledge. The second stage represents the school which builds on the foundation and continues the nurturing, teaching and learning in preparation for the wider world – the second basket of knowledge. The third stage represents the future, the fully grown child as a mature leader continuing to learn but nurturing, teaching and guiding future generations to make the world a better and more beautiful place – the third basket of knowledge. As well as the baskets of knowledge each stage has a maunga symbolising place and represents the whakatauki '*Whaia a koe te iti kahurangi ki te tuohu koe me maunga teitei. Seek that which is most precious; If you bow your head, do so to a lofty mountain.'*As discussed previously as part of connecting to the Cultural Landscape Mountain View School has adopted this whakatauki as a goal of striving for excellence in everything we do. Each of the three stages of the pou has the same components symbolising the same sense of purpose and the importance of working together. However, each segment has a different

rotation to reveal all faces of the work. This also emphasises the beacon or lighthouse symbolism of the pou - the shining in all directions reaching out to the people and drawing them safely together for the purpose of life-long learning. The colours are the Mountain View School colours – the blue for the sea and sky, the green for the land and the purple for the spirituality.

Likewise, the school linked the Library ICT Centre aesthetic components to cultural landscape by having their Maori weaver create the flax weaving in the school colours for the Library Issue desk and the 3 Baskets of Knowledge - Kete Matauranga representing the traditional Maori Myth of how knowledge was acquired.

TE ARA PUAWAI The pathway to growth
The design represents the paths, our tamariki choose to take to reach their goals in life, coming from the dark and leading to the light, from the present to the future.

TE MAUNGA O MANGERE Mangere Mountain
The design is a basic design representing the Maunga which stands tall above the kura. Throughout the life of learning, we strive to reach the top.

TE PUNA MATAURANGA spring of knowledge
The Koru represents the sprouting of knowledge, Not only from the many Kaiako but from all the different ethnic cultures within the kura.

In the Te Papa Tuhono Events Centre the Architect was tasked with designing a Pasifika Wave roofline and verandah which, as well as drawing on the cultural landscape, became a culturally attuned place for families to seek shade and shelter whilst watching school sporting or cultural events and activities in the amphitheatre, as well as a place for children to play in the shade or shelter from the rain. The school drew on the community cultural links to create and execute the multicultural designs on the Event Centre pillars instead of the volcanic rock work the Architect wanted.

To disguise the large and ugly airconditioning vents New Zealand Artist Jeff Thomson worked with the Mountain View School students to design corrugated iron Sculpture of a Cabbage tree with Tui, Fantail and Wood Pigeon birds in the branches and a Weta climbing up the trunk and then he created the sculpture. The students also created corrugated iron weavings for the walls.

The Silasila Modern/Innovative Learning Environment also had design components where the school used artistic dimensions to ameliorate Architects' mistakes. For example, the unattractive, bare concrete staircase which projected down in front of 2 Learning Area/Classroom entrances created a health and safety danger. The children or staff could have hit their heads on the concrete staircase as they traversed underneath every time they entered or exited these classrooms. The health and safety issue was transformed by Mountain View School Pasifika staff and families painting Pasifika Designs on the concrete underneath the staircase to create an Art installation. Friend of the school Rob Te'o designed flashing LED light patterns which also change colour. These were attached to the edges of the staircase to create a beautiful artistic/warning of the dangers of the low angle. The LED lights enhance the ambience of the artwork and the patterns of the Pasifika as well as ameliorating the safety hazard thus the architectural problem was solved by using school-designed aesthetic components.

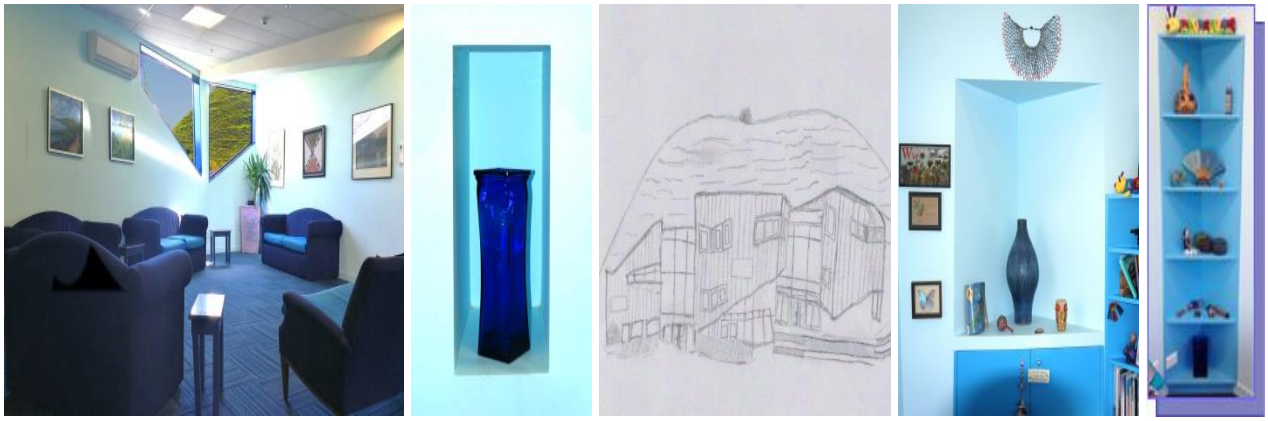
When he opened the Mountain View School Silasila Modern Learning Environment, the New Zealand Governor General, Lt Gen The Rt. Hon. Sir Jerry Mateparae, used the following Samoan alagaupu – proverb: *"O fānau a manu e fafaga i fugālā'au, 'ae 'o fānau a tagata e fafaga I 'upu: The offspring of birds are fed with flower nectar, the children of men are nurtured with words."* He stated that,

> The proverb "reminds us that the guidance and nurturing of the younger generation is the collective responsibility of the entire family, village, and society. The Silasila Learning Environment provides a wonderful example of our collective obligation to the young children of this community now and into the future.

Another educational and inspirational dimension was added to the Silasila Staircase Art installation by printing the words of the Governor General in silver over the Silasila Staircase design for children and families to read and appreciate.

Pasifika artwork created by school staff and children was also used to overcome the Architect's miscalculations of thinking that plants could grow in concrete, and therefore designing large protruding concrete bases in intended landscaped garden areas. Mountain View School undertook all the Silasila landscaping and built Pasifika design planter boxes or mosaics to resolve the concrete problem aesthetically. (Also see Appendix 3 volcanic rockwall landscaping).

The importance of models of excellence which intrinsically incorporate the aesthetic component into the design was highlighted in the changes made to the architectural plans for the Principal's workspaces. The brief specified the children of the school and the Principal need to be able to see and observe each other working or playing, and the children, families, staff and visitors need to be drawn to the significant views of Mangere Mountain looming above the school. They also need to be inspired by the noticeable impact of the shapes of the "outside the square thinking" of the building's design. The Silasila building was designed to encourage divergent thinking in students and staff therefore the structure and interiors needed to reflect divergent thinking. Draft Plan modifications were necessary to add, change and reposition windows to reflect the school's intention and the importance of constant onsite attention and involvement of the School Principal and School Site Manager Aubrey Selwyn for translating the innovative and pedagogical concepts into the reality of the actual build cannot be underestimated. This helped highlight innovativeness and redirect details to key design features such as maximising ceiling heights and angles, and not covering over interesting spaces behind walls. They used school-based technology and expertise to reconfigure the traditional desk shape of the original architect's plan which had the Principal's desk positioned to face the graffiti on the shop building across the road, with the Principal's back to the children, and no view of the mountain. Redesigning the Principal's desk on CAD resulted in an inclusive but WOW factor and funky, shared workstation, that principal, staff, and children could all work at together. The design and reorientation of the new Principal's Workstation now encompassed both the views to the children outside and to the Principal inside so they could wave to each other, as well as model industrious work habits. It also incorporated the panoramic views of the Mountain which was the inspiration for the Silasila design. The importance of books and objects of curiosity and inspiration should feature in the workspaces of an educational leader and the element of surprise to provoke and challenge worldviews in the placement, colour and design of furniture, fittings and art objects.







Accomplishment of long term planning for Schoolscapes which amaze and provoke learning for current students and teachers and for generations to come have greatly increased Mountain View School's capability to effectively deliver curriculum that promotes student learning, engagement, progress and achievement. Te Pou Maturanga, Te Papa Tuhono and Silasila are bold innovative school building concepts which recognise that if education is to make a positive impact upon the poverty issues that beset our country, property developments need to be regarded as change agents, not just passive receptacles or structures that do not have a direct impact upon teaching and learning and social issues. School Buildings need to be inspirational and imbued with the spirit of the community's aspirations and hopes for our children as future leaders. They are about making a difference and building a better world. School buildings and environments also need to be models of excellence that provide thought-provoking Learning Landscapes from the moment the child or learner sets eyes on the school.

Conclusions

This Principal's Sabbatical was a valuable opportunity for review, reflection and restoration after a lengthy period of massive Mountain View School developments involving gruelling commitments of Principal professional and personal time. The sabbatical has also provided the opportunity to examine the Mountain View School developments in terms of the impact of design on optimising learning and addressing issues of poverty, and to further document these developments and undertake major reconstruction of the school's websites for the benefit of the school and wider community. My sabbatical allowed time for travel, reading and further research of revolutionary innovative designs and their impact on communities and the role of resilience in managing difficult transformational processes. It provided further opportunity for reflection on the importance of developing inspirational Learning Landscapes in poverty-impacted schools that promote student growth and development, engagement and achievement, as well as fostering commitment to community and altruistic ideals. Society may benefit from pondering on the possible changing faces of altruism - the principle or practice of unselfish concern for the welfare of others. Documenting the change process and some of the developments of learning landscapes at Mountain View School through written and website materials (www.mountainviewmangere.school.nz) is intended to contribute resource information for other schools and communities who are designing their own spaces.

School Buildings /Learning landscapes can be change agents for optimising learning, provoking thought and metacognition, and acting as educational tools or instruments for learning to improve student achievement. However, for this to occur the New Zealand Ministry of Education needs to fund and hire more specialists as independent component requirements of the school design team, such as, highly qualified specialist Acoustic Engineers, and Expert Pedagogical School Practitioners/Project Managers who have an active knowledge of the Science of Pedagogy -Teaching Practice and Student Learning, and school construction experience to work on the design team.

There needs to be a shift from poverty-impacted models of and for reality to creating models of excellence for poverty-impacted schools. This requires a commitment to greater funding and provision of high quality facilities and resources, including inspirational aesthetic components, for poverty-impacted schools to close the disparity gap between rich and poor and change the mindset. There is no point in governments and society proclaiming equity values if inequities are not addressed with adequate funding and resources and genuine commitment to change for poverty-impacted schools.

However, given the propensity for educational institutions and policies to be subjected to the vagrancies of politics, and undermined by the constipation of bureaucratic implementation of education policy and political interference, poverty-impacted schools need to be creative enough to still find a way to achieve the goal of developing inspirational Learning landscapes and models of excellence that change the mind-set of children and families and therefore provide opportunities to break the poverty cycle. Action, creative energy, divergent thinking and resilience in the face of adversity is needed to address issues of poverty and a recognition of the importance and impact of design on optimising learning in poverty-impacted schools.

Drawing on the Venice Architecture Biennale symbolism of the wise old woman up the ladder and her leadership from the Front, schools can still take positive action to achieve inspirational learning landscapes for poverty-impacted children, by not blaming the harshness of constraints for our incapacity to do our job, and, by developing a careful understanding of the reality and the means through which to take care of it. Not having the resources or the technology should not obliterate the objective for changing poverty-impacted schools but like archaeologist Maria Reiche educationalists, architects, politicians and society in general need to be creative enough to still find a way to achieve the goal -

Against scarcity: inventiveness. Against abundance: pertinence.

In the face of adversity never let go of the vision to change models of and models for reality, address issues of poverty and design inspiring Learning Landscapes to optimise student achievement.

Kaore e mahia I nga tirohanga whanui ka noho noa iho I roto I nga moemoea
Mai te mahi o nga tirohanga whanui ka taea ki tini I nga hurihanga o te ao.

Vision without action is merely a dream
Vision with action can change the world

Appendix 1 – The Vision of Mountain View School –Steel Construction New Zealand Journal article

steel

SCNZ STEEL CONSTRUCTION NEW ZEALAND

The vision of Mountain View School

By Roy Kane

Mountain View School in Mangere, Auckland, is engaged in roll growth that includes additional school buildings that have a unique steel structure.

The Ministry of Education considers this to be a landmark project in which the exciting design focuses on ways to improve the delivery of the curriculum, school organisation and management functions, while highlighting the significance of Mangere Mountain to the school and its community.

Principal Sue McLachlan QSO says the project is called Silasila, "which means to aspire to great heights and far-reaching accomplishments, and let no obstacles get in the way of overcoming challenges to achieve visionary goals.

"The new teaching/learning spaces move away from the rectangular boxes of traditional classrooms. Multiple sloping walls and nine differently shaped environments reflect the individuality of the children and teachers, and celebrate diversity," Ms McLachlan says.

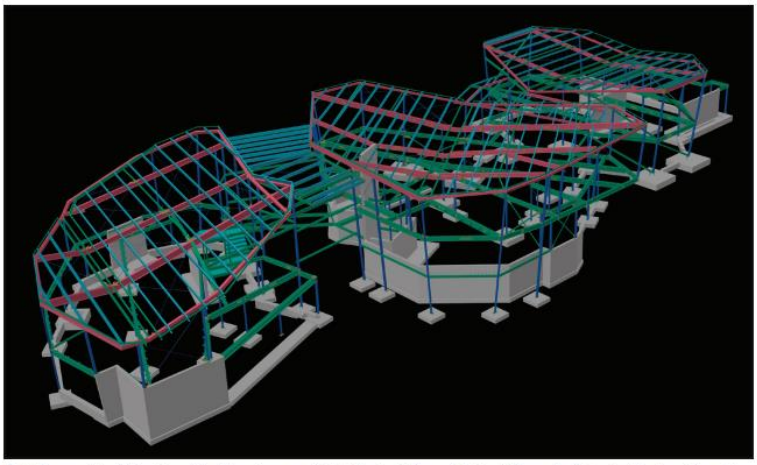
Archimedia associate director Aimee Lee says the firm of architects took inspiration from Mangere Mountain "and from the principal's concept of the learning landscape.

"This volcanic cone's proximity and importance is reflected in the design of the new buildings — three giant boulder shapes are linked by two atriums that provide viewshafts of the mountain. The shapes are powerful reminders of the boulders emitted during volcanic eruptions and have inclined wall surfaces," Ms Lee says.

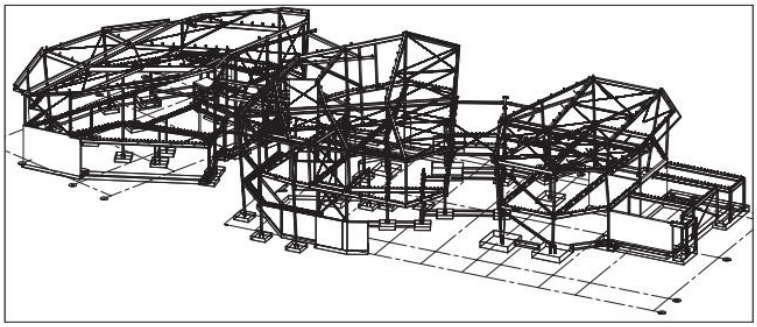
"The outward-leaning walls are a reminder to question everything that you might otherwise take for granted. We also undertook a Master Planning process, analysing the whole site and applying urban design principles to ensure cohesiveness."

The consulting engineers were BCD Group of Hamilton, led by director Blair Currie. The original concept was to use timber for the angled columns, but when the tolerances could not be easily met by timber, the project was re-designed in fabricated structural steel.

An aerial view of the school at bottom right, showing the proximity of Mangere Mountain.



A 3-D model of the boulder-like forms which the builders dubbed (from left to right) Boulders 1, 2 and 3.



The 3-D drawing produced by detailer David Dimond of Waikato Steel Fabricators.

Project engineer Alastair Waller of BCD Group says this provided anchor lines for all the walls.

"Because most of the external walls were not vertical, shear walls were not a viable option for bracing in most locations. Where they were applicable, the shear walls have flat steel cross-bracing — Square Hollow Section (SHS) compression-tension ties were used to help provide torsional and drift control," Mr Waller says.

"The roof structure has an SHS ring beam at the perimeter to provide a strong horizontal truss that ties all of the columns together, while also providing bracing at roof level.

"The architectural requirements around the atrium entries meant that the steel supporting the floors needed to cantilever past the retaining liners. Universal Column beams were used to ensure that enough stiffness was provided."

The worksite at 81 Mountain Road, Mangere, was extremely tight, obliging the main contractor, Robert Cunningham Construction (RCC), to start from the back and work out

Continued page 24

A rough terrain crane operating in the constrained setting down space.

From page 23

towards the road. This presented a problem for cranage.

For the steel subcontractors, Waikato Steel Fabricators (WSF), the rather cramped set down area meant they would have to fabricate the steel and deliver it to the site in the exact sequence that they would erect it. WSF managing director Darryn Jonson explains how his company got off to a quick start.

"All three buildings are multi-sided (7, 8 and 13) and the site is also multi-levelled," he says.

"Traditional 2-D design documentation would have been difficult and slow. Archimedia and BCD had modelled the steel members in position accurately using Revit software, and both were happy to export their model from Revit in SAT format for us to import into ProSteel.

"Once we had this reference model, we were able to trace the whole building very quickly. This enabled us to produce a bill of materials early in the piece for ordering.

"Before producing shop drawings, we submitted an initial model to the design team for review. The design team was then able to evaluate the connections that WSF had modelled but which had not been detailed in the design documentation. Where necessary, they were able to request changes, so avoiding clashes.

"Robert Cunningham Construction was very proactive with providing information and working with us towards the final shop drawings. The final detailing was the work of David Dimond, a credit to WSF."

RCC site foreman Ivan Kete was interviewed on site as he was cladding the walls of the third and final building with the same Colorsteel as the roofing for the project, and had only praise for WSF.

"We know their track record so we expect them to deliver well fabricated steel. And we expect their on-site team of erectors to stay on the programme, which they did very well. But most certainly, they got all this right because of the fantastic job they did on the detailing."

During the building phase, Archimedia and BCD engaged with pupils of the school, answering their questions about architecture and engineering. And from the outset Ms McLachlan has been intensively involved.

"You get only one chance to provide a building that will make the community proud and meet its needs for the next 50 years. Buildings can represent beacons of hope, and Silasila is intended to engender aspirations of working hard together to build a better world by investing in our children as future leaders!"

The new structures angle for attention.

Boulder 1 will accommodate administration, and on the left is the Resource Room.

At Boulder 2, concrete is poured in early morning mist.

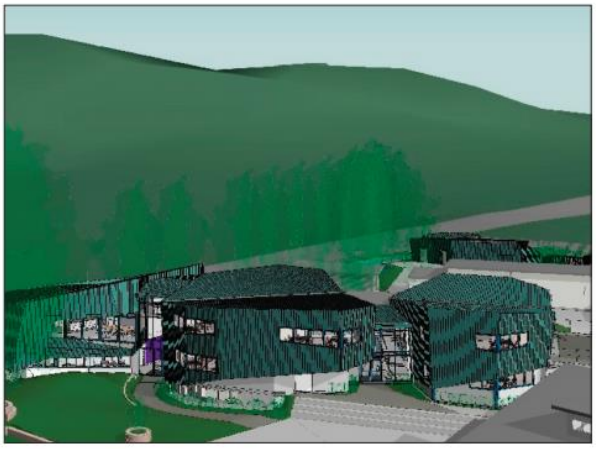
Boulder 2 later in the programme, with purlins being installed on the roof.

Temporary straps hold tilted columns in position pending bolt up.

Mangere Mountain in the background watches over the build.

The walkways connecting Boulders 1 and 2, and the men who use scissor lifts to cut through the visual dutter.

Boulders 2 and 3, covered in RAB Board, which forms the inside wall of the cavity system that allows for drainage. Longrun steel will be used for the exterior cladding.



Artist's rendering.

Appendix 2 Case Study – "Ghetto" School Fence vs Aesthetic Component Insistence

There was no adequate fencing surrounding Mountain View School therefore the community used to cut diagonally across the school field to the Mountain Road shops and sometimes detour into the classroom to steal school equipment or the teacher's belongings. Vandalism occurred most nights with the drinking of alcohol and taking drugs on the school site, the smashing of bottles, urinating, defecating and vomiting in the school grounds and tagging on school buildings. The original placement of prefabs (relocatable buildings) for classrooms, library and RTLB on the school site blocked the vision of anti-social behaviour and vandalism and at least 2 hours each day needed to be spent by school staff cleaning up the broken glass, vomit, faeces and urine and the painting out the tagging or graffiti. The complaints to Ministry of Education from the surrounding neighbours about this nightly violent and anti-social behaviour on the Mountain View School site resulted in the Ministry of Education offering to build a fence around the perimeter of the school to keep the vandals out. However the fence the Ministry of Education wanted to build was a 6 foot mesh fence with 3 barbed wire strands on the top. The school and Board of Trustees refused the Ministry of Education fence design pointing out that this barbed wire fence design would make the school look like a ghetto and that was not the impression they wanted for their Mountain View School community. The rejection of the Ministry of Education barbed wire fence design resulted in the Ministry of Education withdrawal of the proposed $35,000 funding for a new fence and the school had to fundraise the total amount for the new fencing.

A functional aesthetically pleasing school fence was designed and built with the help of the sympathetic, talented, Digger Driver Wayne Garner who had had his machinery vandalised whilst working on the new school carpark and amphitheatre developments. He enlisted the help of engineers and fence builders to design and build a complex, blue wrought-iron fence around the Miller Road and Mountain Road boundaries of the school. This complicated task had to account for the 20 foot (telegraph pole) rise from the lowest point in Miller Road to the highest point in Mountain Road. Again Mangere Mountain with its slopes and volcanic rock problems needed to be an important consideration in all aspects of this work and it took over a year to build. The Health and Safety aspects of constructing a fence that was difficult to climb, or squeeze through a gap and hence keep the Mountain View School children safely in, and the vandals and burglars safely out, and yet robust enough to withstand damage from vehicles or break-ins, necessitated much shared community and school problem solving skills and engineering expertise.

As well as the health and safety and functionality considerations of the new fence, the design aesthetics were given equal attention. At the Miller Road entrance to the school a Memorial Garden with roses and Pohutukawa tree had been planted for a young pupil who had been killed on her way home from Mountain View School by a driver driving on the wrong side of the road. It would have been cheaper and easier to run the fence and gate straight across instead the school decided to make smaller fence panels and curve the fence around her Memorial Garden to create a special feature, and emphasize the importance of this Memorial Garden for the school and the community who participated in the ceremony at its creation. At the Mountain Road entrance to school the Mountain View School Committee members in the 1980s had erected a brick wall that angled in to emphasize and make the school entrance more attractive. Again, although it would have been much cheaper to take the wrought iron fence up a straight fence line and install a straight gate the Principal and team working on the fence chose to retain and modify the previous school community ideas. Consequently they extended the height of these original community-built brick pillars and designed a special large wrought iron gate which followed the shape of Mangere Mountain and also incorporating the name of the school in English and Te Reo Maori into the wrought iron work. Although Mountain View School now had a new school logo, the design of which was assisted by artist Richard Killeen, incorporating the new Mountain View School colours of blue, green and purple and emphasizing the significance of the Maunga - Mangere Mountain and harbour, the old school logo was used in the gate too as this

logo had resulted from a design competition by previous pupils and this was a way of acknowledging their previous work and contribution to Mountain View School development.

The complexity of the fence construction with the colour, size and form necessitating the powder coating to be undertaken in another city as the larger size bath required for the fence was not available in Auckland. This compounded with all the additional fundraising meant the fence took nearly a year to construct and cost double what the Ministry of Education would have paid for its "Ghetto Fence". Mountain View School had to rely on the generosity of support, sponsorship and fundraising from the business and wider community who appreciated the importance of not propagating ghetto messages on poverty-impacted schools, and the relevance of design in promoting equity. However the fundraising and construction efforts were amply rewarded by the extremely positive reactions from the families and community. The families thanked the school profusely for building a fence to keep their children safe and the wider community suddenly found the new bold colours of the school very attractive and noteworthy framed by the blue fence. Other poverty-impacted schools followed suit and built safe and attractive wrought iron fences which have long been a fencing feature for Private Schools where the aesthetic component of lifelong learning is acknowledged, appearances are considered important, and raising funding for attractive fencing is not an issue.


Mountain Rd

Appendix 3 Mountain View School Exterior Learning Landscapes

Gardens, plantings & features

Native Bush

Mountain View School has developed a New Zealand Native Bush Area as a living learning landscape for the children and the community. It has an extensive collection of over 135 native trees and shrubs which are planted on a mounded area created at the corner of Miller and Mountain Roads. A trail winds its way through the Native Bush area enabling students to closely observe and identify the various species and their characteristics. Learning about NZ Natives is optimised by the very informative Forest and Bird labels made by Metal Image. These have the Latin botanical names, the Maori name and common names of the native plants as well as the botanical descriptions of the special characteristics of each plant and medical or other uses of the plant. The labels include botanical drawings of the leaf, flower and fruit. Among the many varieties is one of the rarest trees in the world - Pennantia baylisiana. It is related to Kaikomako. There was only one of these trees surviving in the world growing on Great Island in the Three Kings Islands off Cape Reinga. In an effort to save this rare tree species Scientists took cuttings for propagation and numbered the trees to track where they were now growing in the world. Mountain View School's tree is No 237 and was donated for the Native Bush area by a friend of the school. A planting plan of Mountain View School's bush area is available so the children and community can have access to this information and observe native trees and shrubs growing in our area.











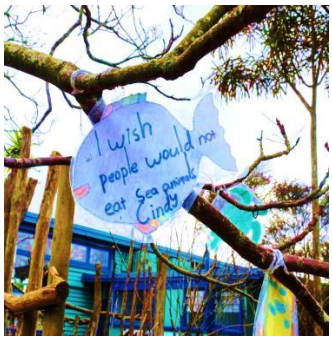


Children's Wishing tree

The children at Mountain View School have their very own Wishing Tree. A seat was built, following a traditional 18th Century American design, around the base of the large Melia tree and painted in colourful stripes. The children, staff and community bring things to hang in the tree like wind chimes and mobiles. One father and his daughter built a Bird House to hang in the tree. Children find it a pleasant place to play, and families find it a peaceful place to sit. It is an ever-changing Learning Landscape with the Melia tree having flowers in Spring, new green leaves in Summer, changing gold leaves in Autumn and being bare in the Winter. In addition the children prepare multilingual wishes to hang in the tree often based on their current topic of study extending their interior learning into the exterior environment of the school or they can put word or pictures wishes for themselves, family or community. Some of them are altruistic wishes for our world like Peace while others have kept it simple with a picture of an icecream or a flower. Everyone is welcome to hang their wishes in the Mountain View School Children's Wishing Tree.





Millennium Maze

The children helped design and create and plant their very own corokia as part of the koru design of the millennium maze. They labelled their plant with their name, age and pictures or messages to their plant e.g. "Grow well little tree". The millennium garden and maze is patterned in silver, black and red New Zealand Native plants and has black totem poles with the children's patterns and paua on them. The koru design form of the maze represents past, present and future generations. It is a symbolic Learning Landscape intended to be intergenerational.






Olive Grove

Each class planted an olive tree from different parts of the 'old' world to create an Olive Grove with a Lavender hedge surrounding it in a desolate unused area beside the old dental clinic. There are different varieties of olive trees from various Mediterranean countries in the old world such as Israel, Greece, Italy, Spain, France. The range of varieties of olive trees enable the children to learn more about the countries the trees have come from and how different types of olives are used. Amongst our olive tree selection some olives are grown for pickling and some olives are used for making olive oil. The children are aware the olive trees have been grown for thousands of years and that there are ancient olive trees still growing in the Garden of Gethsemane in Jerusalem that may well have been around at the time of Christ two thousand years ago. It is hoped that the olive trees we have planted will live for a very long time too and will be around for today's generation of school children to share with their children and grandchildren. The Olive Grove Learning Landscape has continued to provide learning opportunities and children from each class participated in creating giant wooden poppies and installing them in the Olive Grove. As the red poppy – or Flanders poppy – is an international symbol of remembrance for those killed on the battlefield Mountain View children honour our ANZAC soldiers for ANZAC Day with remembrance ceremonies in the poppy field they created in the Olive Grove. The Centennial of Gallipoli was marked with the white crosses for fallen soldiers and the silhouette of the sentinel New Zealand Soldier.










Recycling bins/containers



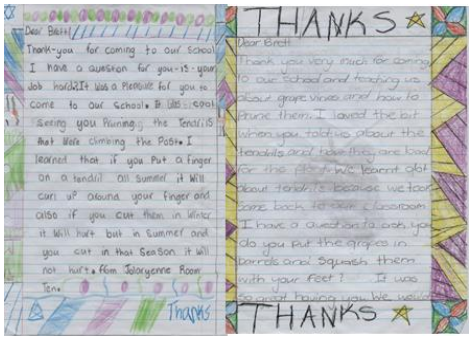
A recycling programme was developed by the children. To encourage them to recycle their cans and bottles Greedy Cat stations or bins were set with large cut outs of Greedy Cat attached to them. Greedy Cat is a character from the Ready to Read national reading series who sneaks up behind Mum when she has been shopping and gobbles the food up and the Greedy Cat books have great appeal to the children. The children loved feeding Greedy Cat their cans and bottles and even the little preschool Kohanga Reo children toddled over to the Greedy Cat chanting the book's refrain "Gobble, gobble and that was the end of that!" (in Māori and English). This idea of creating an animal character was so successful that one of the senior classes decided it could be extended to fine tune the recycling and the children created characters for their recycling stations, such as Hungry Dog for meat scraps, Greedy Pig for food scraps, Hungry Goat for plastics, Ducky Lucky for bread and Paper Tiger for paper. An area was developed for Worm Farms and composting. Small buckets with lids were gifted to the school for each classroom to use in the recycling programmes. Transfers to match the recycling characters Greedy Pig, Hungry Dog, Greedy Goat, Ducky Lucky, Paper Tiger and Greedy Cat were added.

Villa Maria Grape Vines




Sir George Fistonich Managing Director of Villa Maria Winery planted a commemorative grape vine which he donated to the school from the Villa Maria Vineyards Special Selection. These grape vines were planted beside a pergola which was constructed in our Olive Grove, by the school Property Manager with the help of our senior pupils from materials provided by Villa Maria. These links with local industry optimise learning for Mountain View School students. Staff from Villa Maria come to prune the grapes each year and teach the children about it.





Villa Maria's Chief Vintner explained to the children how and why the grape vines had to be pruned in a certain way to help the grapes grow. The children learned a lot from this important process and wrote thanking him for teaching them so much.



The Mountain View School grapevines have many bunches of grapes each year and the children enjoyed harvesting the grapes and eating them. The children write letters and send photos of them harvesting the grapes to Villa Maria. They received a lovely letter from George Fistonich thanking them for their letters and photos. Sir George Fistonich said their letters were truly inspirational and kind and gracious words were written in true appreciation. As the children told him the birds had got some of their grapes Villa Maria provided free nets to the school to protect the school vines from the birds. Learning Landscapes can develop interactional, and cross-curricular links and learning outcomes.



Students and staff from Mountain View School were invited to the Villa Maria Estate to assist with harvesting the Pinot Noir grapes to be used for making champagne. The children and staff were given secateurs and shown how to cut the grapes from the vines. The children were allowed to eat the grapes and many bunches were also sent back to school for the children and staff. It was a very worthwhile hands-on learning experience with Sir George and his staff answering many questions and proposing continued visits and school and vineyard links.

Art Deco Pots with Sweetpeas **Sunflower Garden** **Wheelbarrow Garden**



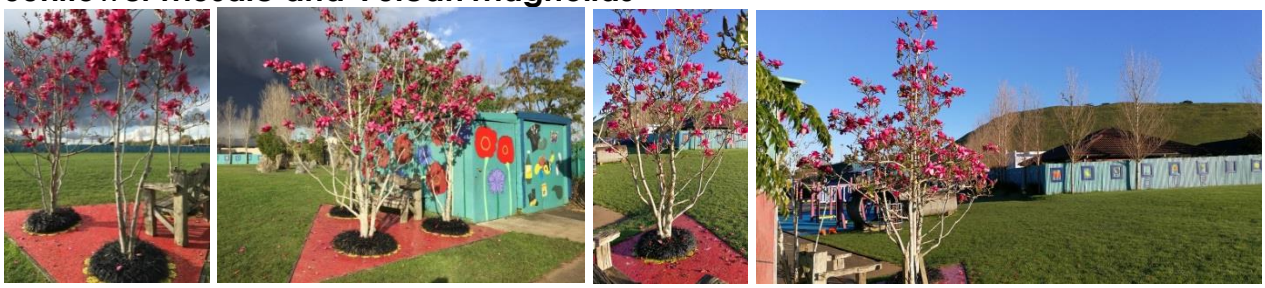
Hexagon Garden

When the old Hall and the Relocatables were re-sited and the Sports Court area extended the school and children designed, fundraised and built a new vegetable garden area for student and family use. The children decided that the shape of vegetable patches did not have to be squares or rectangles so we built a hexagon garden. Each garden section is framed with black poles and surrounded by white stone chip paths leading to a beautiful turquoise ceramic water feature in the centre of the hexagon. Grass and kerbing has been laid surrounding the hexagon garden area and 4 large turquoise ceramic koru pots with trailing flowers stand on black concrete hexagon bases inlaid with paua shell to match the central water feature base. An area has been concreted to create a working space for the children to do their potting up of seeds and plants near the compost and recycling area. The school Property Manager built hexagon planters which have Mandarin trees and orange pansies growing in them. The children learn to prepare the garden, grow plants from seeds, nurture and tend vegetables and harvest, and cook them in the adjoining Food Technology building. The Hexagon Garden is a Learning Landscape that promotes Science and Health and other cross-curricular learning opportunities.

Windsocks and Banner Flags

The children were taught how to design and make Windsocks and they make different sets of windsocks each year usually depicting one of their Themes of Study. If the children were studying about the Olympic Games they incorporated their Olympic emblems into their designs or if they were studying Life cycles they incorporated their science drawings into their designs. The Windsocks are mounted on poles and flown around different areas of the school grounds. They also designed and made Banner Flags in the school colours—blue for the sea and sky, green for the land and purple for the spirituality and sets of the tricolour of banners are erected at the three gateways to the school.

Sunflower Mosaic and Vulcan Magnolias



A triangle of ceramic tile work around Vulcan Magnolias was created after the Mountain View School children had been studying Sunflowers and artist's work like Van Gogh. Red tile mosaics form the majority of the triangle with yellow tile sunflower petals laid around circle bases of the 3 trees, and black Mondo grass planted around the base of each tree for the sunflower centres. Sunflowers were also painted on their classroom windows.

Cultural Landscape Features

Cultural Landscape features were integrated into the Total School Site so the Mountain View School children, families and community could make cultural links and associations through the plants, objects and other Learning landscapes throughout the school.

Giant Pots decorated with Paua **Manuka Fence** **Koru Sculpture** **Colour Wave Garden**

Flax Fronds and Tuis

A tall container was built and painted with the Tuis and Bellbirds to display the flax fronds collected from the School's Native Bush.

Flowers common to the Pacific Islands are used around the school grounds for Pasifika families to identify with.

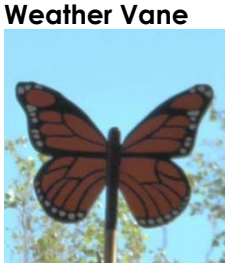
Roof Garden Furniture

Objects and furniture like the Roof Garden bench tables are painted with culturally-relevant symbols.

Butterfly House



Weather Vane **Hanging Baskets** **Butterfly House** **Life cycle of a butterfly**




Mountain View School's Site Manager designed and constructed a Butterfly House with giant bamboo gifted by an Auckland farmer. It is surrounded by gardens, planting boxes and hanging baskets filled with flowers and plants that butterflies like to feed on. Mountain View School children are trying to encourage and protect butterflies particularly the Red Admiral butterflies as they are endangered. The children have grown swan plant seedlings and watch for the eggs on the plants to hatch into caterpillars and beautiful Monarch butterflies. There is a butterfly weather vane on top of the amazing Butterfly House. Pictorial cut-outs of the Life Cycle of a Monarch Butterfly Science Flow Chart are mounted on the Perspex wall by the Butterfly House for the children to abstract their live experiences and optimise their learning.

Environment Picket Fence




The School Carpenter and his family built the Protect Our Environment Picket Fence over a weekend and the children were very excited to see the construction for their new Learning Landscape. Every child had studied environment protection and had prepared drawings and messages on their own individual picket fence-pale or some classes had group sections of fence. Children worked with teachers to paint their Environment messages and drawings onto the Environment Picket Fence. The lettering PICKET PROTEST PROTECT OUR ENVIRONMENT was painted on the fence rails and PROTECT AND ENJOY - DO NOT DESTROY on the picket gates. Groups of children painted patterns on the points of each picket with the patterns continuing the theme of promoting environmental awareness.

Walls, Fences, & Windows

School Walls, fences and windows are ideal places for Learning landscapes to optimise learning within the total School Environment. As fast as the School Property Manager built fences from donated corrugated iron which families and the community contributed, the children researched and created learning landscape Alphabets.



All classes participated in the development of the Vegetable Alphabet painting vegetables representing the letter and associated word in picture frames the Property Manager built and mounted on the fences bordering the top field. This has transformed dull and dingy fences into exciting and fun learning landscapes. The Vegetable Alphabet adds to the students' letter identification knowledge and category knowledge.

Vegetable Alphabet

Fruit Alphabet

All classes participated in the development of the Fruit Alphabet painting fruit representing the letter and associated word in picture frames built and mounted on the fence bordering the top field. The competition across the whole school for the Z fruit – imagining and drawing Zulalulafruz went well and the winners painted their creations in the z frame.

Animal Alphabet

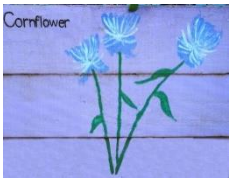
Bird Alphabet

Mineral Alphabet

Flower Alphabet Troughs

The Flower Alphabet adds to the students' letter identification knowledge and category knowledge. The children with staff assistance painted a Flower Alphabet from A Agapanthus to Z Zinnia on the large planter troughs "Bill the Builder" built for them. The purple flower troughs were all planted up with purple Tibouchinas and apricot Tizzy Lizzys.



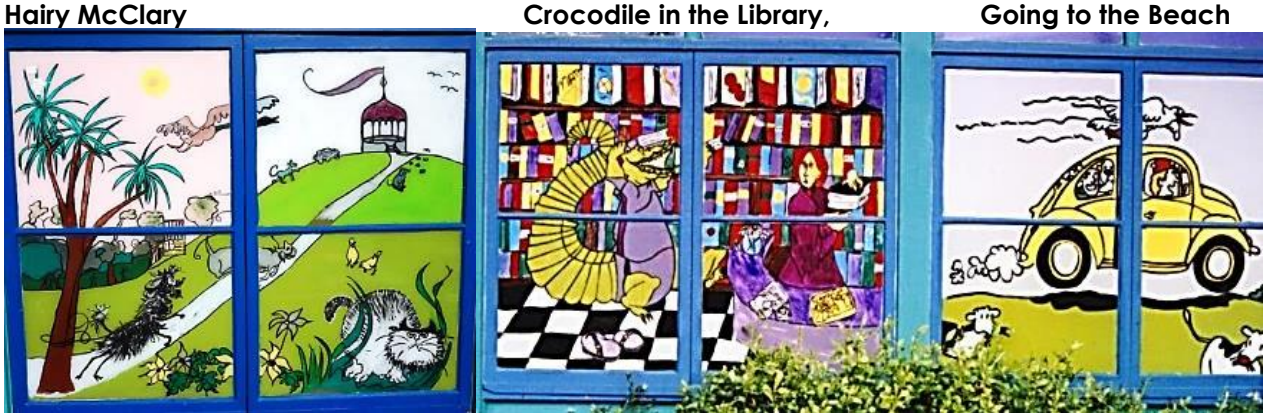
There are now four different kinds of alphabets sited in different places around the school - the Taniwha's alphabet ball with its black and white identification of consonants and vowels at the front of the school, the Vegetable, Fruit, Animal, Bird and Mineral Alphabets on the top field and the Flower Alphabet planters along the Pikitea Building. These complement the classroom graphophonic work.

Children's Favourite Book Characters Window

During the building of the Silasila project all the Mountain View School children were given a scale drawing plan outline of the shape of the window of the new Resource Room next to the school Library and they drew their favourite Book Characters that they would like painted on the Resource Room Window. Then the favourite book characters of the children were amalgamated and painted onto the window and the adjoining door by one of the teachers.

Other Window Book Murals

Hairy McClary **Crocodile in the Library,** **Going to the Beach**



Window Painting

Window murals provide more sources of learning for the children with native birds like Pukeko from our swamps, Kereru from the bush and Wader Birds from the sea shore.

Murals

The Eyes of the Children are the Visions of the Future Mural at School Entrance


As a starting point for creating Learning Landscapes at Mountain View School that focused on the aesthetic component of life-long learning Craig Parkes helped the school to create a wonderful three-dimensional mural for our school entrance way. The mural is superbly made, richly coloured and truly beautiful. At the heart of the mural is a 'visionary eye', a symbol of the power of visual language and the learning and meaning that is gained from what we see. Shapes drawn from the cultures of our chi1dren surround the centre. The underlying concept of the mural is the belief that by exposing the children of this generation to works of beauty that express the shared qualities and unity of humankind across cultures our children will work towards creating a world of goodness and beauty for future generations.

Mangere Mountain Murals, Views, Faces, Scenes

Senior pupils from Mountain View School worked with graphic designer Craig Parkes on jigsaw piece paintings of scenic 'Mangere Mountain Views'. They used a digital camera to take shots of views of the Mountain from different places and selected a view to paint on a jigsaw piece. Other children worked on observing and sketching the different 'Faces of Mangere Mountain' from different points of the compass. Sketches were used to make the cut outs for the mural and 2 murals were made - one for school, and one for the Mangere Mountain Education Centre. The children also sketched, photographed and painted places and 'Scenes around Mangere Mountain' such as the Wader Bird Sanctuary, St James Stone Church, One Tree Hill, Onehunga Wharf, Mangere Mountain Education Centre, Te Puea Marae, Residences, Mountain View School, Auckland Airport and Puketutu Island.

Kae and the Whale - Swimming Pool Mural



Murals were created or mounted on different wall surfaces of the school conveying knowledge and understandings about different curriculum studies the children researched, designed and developed or information they have discovered from their studies.

Architecture mural

Maori Planets of the Universe mural

Counting mural

World Map and Flags Mural

Kiwiana Mural

The children researched Kiwiana to paint a mural to cover the Recycling Shed door.

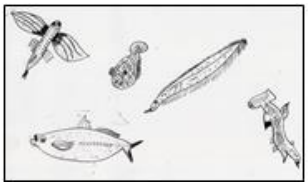
ANZAC Poppies and Cornflower Mural

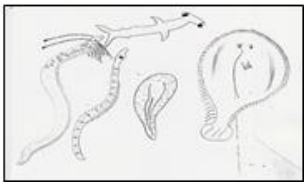
Cornflowers are Prince Charles favourite flower so a mural of ANZAC poppies and cornflowers were planted on the side of the shed.

Peopling the Pacific - Netball Court Wall mural

Craig Parkes painted a mural for the swimming pool wall using yellows, oranges and blues. It symbolises the mountain with the water reflected below and depicts the elements sun, moon, and stars with multicultural representations in the frangipani flowers, patterns and figures.

Fish 'n sticks





Before *Now* *School Logo*

During a study of Tangaroa-The Sea the children researched, selected and sketched or drew different shapes of fish eg. eel, swordfish, flounder, snapper etc. and/or sticks eg. Waka paddle, taiaha, ko, fork etc. The shapes were enlarged onto cardboard so these forms could be transferred to wood and cut out. The children then painted their fish bright blue and their sticks black and the collage arrangement was assembled on the end of a Classroom Prefab wall and then transferred to the end of the school building when all the prefabs were removed from the school site. This mural is called Fish 'n Sticks (not Fish & Chips) and is inspired by the work of the artist Richard Killeen who also assisted the Principal Sue McLachlan in producing the design for our current school logo.

Insect Cut-outs For The Hexagon Garden Fence

The children studied and sketched insects. They enlarged and painted their insects to make cut out insect shapes for the garden fence.

Ground Markings

School ground markings provide more sources of learning for the children with opportunities for them to research multilingual greetings, farewells, or pathways are another place for displaying their word poems, games they have devised, or characters and information they have discovered from their studies.

Welcome Greetings

Farewell greetings

Pink & Purple Word poems

Taniwha of Learning - Taniwha o Matauranga

Taniwha's Alphabet ball

Te Taniwha o te Matauranga - the Taniwha of learning was designed and painted to create a new play area where the children could learn while they played. Our Taniwha was painted onto the concrete at the entrance to Mountain View School as a cultural and learning symbol. The Taniwha is designed to help children learn the colours of the rainbow in sequence, and to count in 2's, 5's, 10's, 100's etc. so the children can hop, step and jump on our Taniwha of Learning and practise their Mathematics. Our Taniwha has an alphabet ball to play with to learn consonants and vowels of the English alphabet.

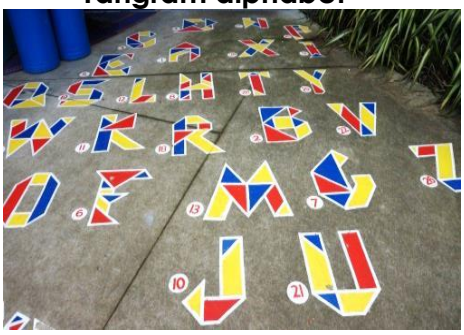
Maths games - Lunga ma Lalo Ups and Downs

Mountain View School children invented their own Pasifika game of Snakes and ladders and it was painted on the concrete path outside the Library. Other Mathematics related learning and other curriculum subjects from the teaching programme became ground markings around the school's concrete and tarseal areas,

Geometric shapes

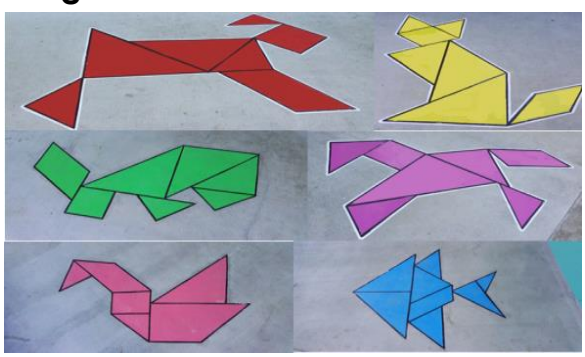
Fractions Hopscotch

Tangram alphabet



Tangram numbers

Tangram animals



World Map

Hopscotch poems

Four square games

The children added poems and pictures to the Hopscotches

Toy Spiral game

Interactive ground murals were painted for Mountain View School, such as, a numbered spiral game with pictures of toys featured in each block. This reflected the Toys Study investigation the students had undertaken.

Recycling Characters

For the curriculum study on Recycling and Wearable Art the children researched Recycling Characters and they were painted on the pathway between the school buildings.

Artists' Works & Installations

Kuia Dawn Matata - Tukutuku panel

Expert weaver Kuia Dawn Matata taught the Mountain View School students to weave Tukutuku panels. They created a beautiful Matariki panel incorporating different stars, stairways and flounder with sparkling beads.

Muka Studio Art Works

When Mountain View School won the Goodman Fielder New Zealand School of the Year Award Muka Studio gifted to the school 10 original prints by New Zealand Artists - Ralph Hotere, Gretchen Albrecht, Don Binney, Pamela Wolf, Michael Smithers, Pat Hanley, Buck Nin, Te Kura, Michael Tuffery and Dick Frizzell. These are an amazing resource for our children and community and greatly enhance our architecturally stunning Library ICT Centre. The students have been able to use the 10 original artworks we were donated and which are now displayed in the library and other books on artist's works to gain more knowledge about appreciating art and making artworks.

New York Artist Eric Orr

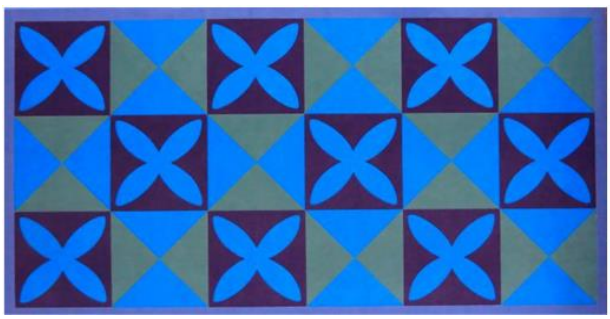
DNA mural

Angel over New York

Totem Poles

Mountain View School welcomed Eric Orr, an international artist from New York. He worked with a group of our children to create a large mural and Totem Poles showing his distinctive style of painting. The children were absolutely fascinated by Eric and enjoyed being part of the experience. He expressed how important it is to use the gifts and talents we all have and to follow our dreams. While creating the mural at school featuring the symbolic style of art for which he is renowned, Eric pressed the children's handprints onto their painted icons and told them "Now your DNA is in the Mural!" The DNA art work mural is mounted on the school walls. Eric also gifted the school one of his own artworks called "Angel over New York' which is now displayed in the School Library.

Pasifika Pattern Vertiface



Design work was developed with community assistance for the acoustic panelling for Theatre and Peformance in the new Te Papa Tuhono Events Centre. The Vertiface acoustic material was specially cut to form a Pasifika design with the frangipani flower featuring in the designs.

Mangere Bridge Art Society Artwork for Quiet space Panels



Barbara Timmins and Bev Harper from the Mangere Bridge Art Society very kindly allowed their art work, which they painted from photos provided of Mangere Mountain, to be used to project onto large canvases to cover the Quietspace panels on either side of the doorway entrance to the Events Centre. This was a new technique for these acoustic materials and Mountain View School lead the way in demonstrating the inclusion of art work on these Quietspace panels. The symbolic concept was to form a visual statement of the name of the school - Mountain View, the close-up view of the mountain, and the distance view from the mountain. The distant view was looking across to Puketutu Island and down the harbour to the Manukau Harbour Heads.

Artist Jeff Thomson

When Artist Jeff Thomson was welcomed by the children to Mountain View School he offered to make a sculpture for them if they each gave a dollar. Jeff and the children worked on design ideas and the children kept adding more features and Jeff encouraged them to research aspects e.g. male or female wetas. Finally with the design agreed upon Jeff constructed a magnificent corrugated iron Sculpture of a multi-leaved Cabbage Tree with a Fantail, a Wood Pigeon, and a Tui in the branches and a Weta climbing up the trunk which has been installed near the air conditioning plant at the entrance to the Events Centre pathway and can be viewed from the road. Jeff is a regular visitor to Mountain View School working with the children teaching them about creating, making and appreciating art. Mountain View School children have made corrugated iron flax weavings some displayed to view on walls and some to view looking down to the ground. Artist Jeff also enjoys surprising the Mountain View School children with gifts of his art work. He made the children a large corrugated iron Kiwi for their Millennium Maze and Mother and Baby copper Kiwis from the school and Principal's old hot water cylinders for the Fern Garden in the Atrium entranceway.

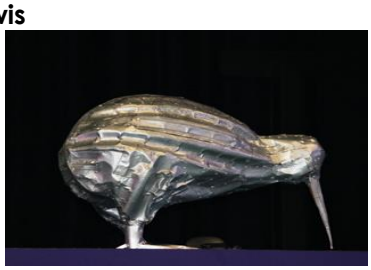
Cabbage Tree with birds and weta




Weavings for walls

Kiwi in maze


Copper Kiwis

Weaving Islands in the Sea




Claudia Pond Eyley Window Mural

The children gained inspiration from the NZ artist Claudia Pond Eyley's window mural artworks and they worked on a mural of a 'Mountain View School Garden View from a Window' for the Hexagon Garden area. This mural was mounted within a black window frame which had a ledge for garden pots. The children also painted decorative pots and planted herbs in these pots for the window sill.

Artist Claudia Pond Eyley




New Zealand artist Claudia Pond-Eyley visited Mountain View School. Claudia particularly liked the children's window mural of Mountain View School where they adapted her window series idea and she gifted the children one of her hand-painted screen prints in which she had thoughtfully incorporated the school colours and included the mountain and our school cat. She signed it 'To the children of Mountain View School with best wishes Claudia Pond-Eyley'. The junior school children hand painted a terracotta pot with flowers and planted a cream New Zealand Hibiscus from the school gardens as Claudia had admired this plant when she was looking at the school's Native Bush.

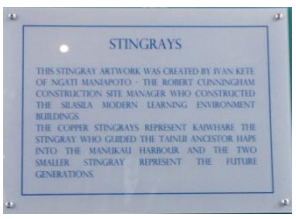
Artist Miriam van Wezel – 'Shelter' pods



The transportation of the Shelter sculpture from the Exhibition at Fort Takapuna Narrow Neck and the installation at Mountain View School was very complex with special trucks and cranes required. Artist Miriam Van Wezel was here to position the tunnel pods to maximise the light and external/internal views from the shelters. Then the Mountain View School Site Manager concreted in the macracarpa cradles for each pod to rest upon. Miriam Van Wezel the artist who made the work "Shelter" for the New Zealand Sculpture Onshore exhibition in Devonport gifted the sculpture to Mountain View School. The 3 parts of the work are very large concrete pipes with coloured fabric inside, - a green and blue (earth/sky) pod, a yellow (sun) pod, and a red (life) pod. The positioning of the pods enables the children to move from the safe place of the pods with their views of Mangere Mountain and the school fields to take risks on their adventure playground.

Ivan Kete Copper Stingrays





This stingray artwork was created by Ivan Kete of Ngati Maniapoto - the Robert Cunningham Construction Site Manager who constructed the Silasila Modern Learning Environment building. The copper stingrays represent Kaiwhare the stingray who guided the Tainui (Wai o Hua) ancestor Hape into the Manukau Harbour and the two smaller stingray represent the future generations.

Appendix 4 Cultural Landscape Links - Mangere Mountain volcanic rock constructions at Mountain View School

To create cultural landscape connections between Mountain View School and Mangere Mountain volcanic rock was used on the Amphitheatre; Library, Auditorium, Courtyard walls and planter box; Prince's Golden Totara Tree; Administration Boulder Entrance Terraces; Linking pathways with volcanic rock walls; Administration Boulder Atrium rock walls and Volcanic Rock water fountain; and the Stone Circle.

1. The Amphitheatre

The school self-managed the Amphitheatre project - the construction of a volcanic rock wall amphitheatre with a stage, electrics and extensive tiered spectator seating. This included field levelling, drainage and landscaping and fencing the roadside perimeter.

2. Library, Auditorium, Courtyard walls and planter box

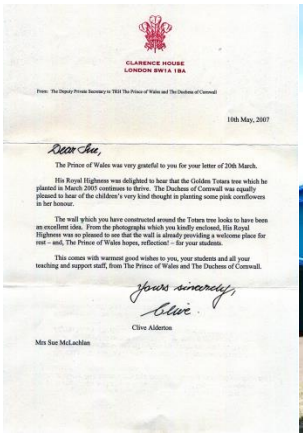
The Library ICT Centre construction used volcanic rock walls as external features on and around the building to continue the link to the Amphitheatre volcanic rock and connection to Mangere Mountain.

3. Prince's Golden Totara Tree

School community Tongan stonemasons constructed a circular volcanic rock wall seat around the golden totara tree HRH The Prince of Wales planted for the Mountain View School children and community. The Prince's favourite flowers – blue cornflowers were planted around the base of the tree. The volcanic rock wall planter emphasised the symbolic importance of the Golden Totara that the children call "The Prince's Tree".





CLARENCE HOUSE
LONDON SW1A 1BA

10th May, 2007

Dear Sue,

The Prince of Wales was very grateful to you for your letter of 20th March.

His Royal Highness was delighted to hear that the Golden Totara tree which he planted in March 2005 continues to thrive. The Duchess of Cornwall was equally pleased to hear of the children's very kind thought in planting some pink cornflowers in her honour.

The wall which you have constructed around the Totara tree looks to have been an excellent idea. From the photographs which you kindly enclosed, His Royal Highness was so pleased to see that the wall is already providing a welcome place for rest – and, The Prince of Wales hopes, reflection! – for your students.

This comes with warmest good wishes to you, your students and all your teaching and support staff, from The Prince of Wales and The Duchess of Cornwall.

Yours sincerely,

Clive

Clive Alderton

Mrs Sue McLachlan

4. Creating Volcanic Rock walls as Linking Pathways

Mangere volcanic rock was used to create walls to lead people into the school, through the school and around the school.







5. Creating Administration Boulder Entrance Terraces

Mountain View School organised the volcanic rock wall landscaping to use up some of the enormous amount of volcanic rock that was encountered when excavating for the Silasila project and to create cascading volcanic wall terraces which curved to link with the rock walls guiding entry to the school site.

6. Administration Boulder Atrium rock walls and Volcanic Rock Water Fountain

A spectacular volcanic rock was selected from the excavation pile and a hole drilled in it. This large volcanic rock was then craned into the Mountain View School Entrance Atrium and used to create a water feature in the New Zealand Fern Garden in the Administration Boulder Atrium.

7. Stone Circle

Large volcanic rocks from the rock excavation for the new Silasila buildings were carefully selected and used to create Mountain View School Stone Circle.

Measurement of the Winter and Summer Solstice on the Mountain View School site in relation to Mangere Mountain determined the creation and positioning of the Stone Circle and the exact placement of the Male and Female stones in the construction of the Mountain View School Stone Circle.

Mountain View School Stone Circle and Matariki Celebration

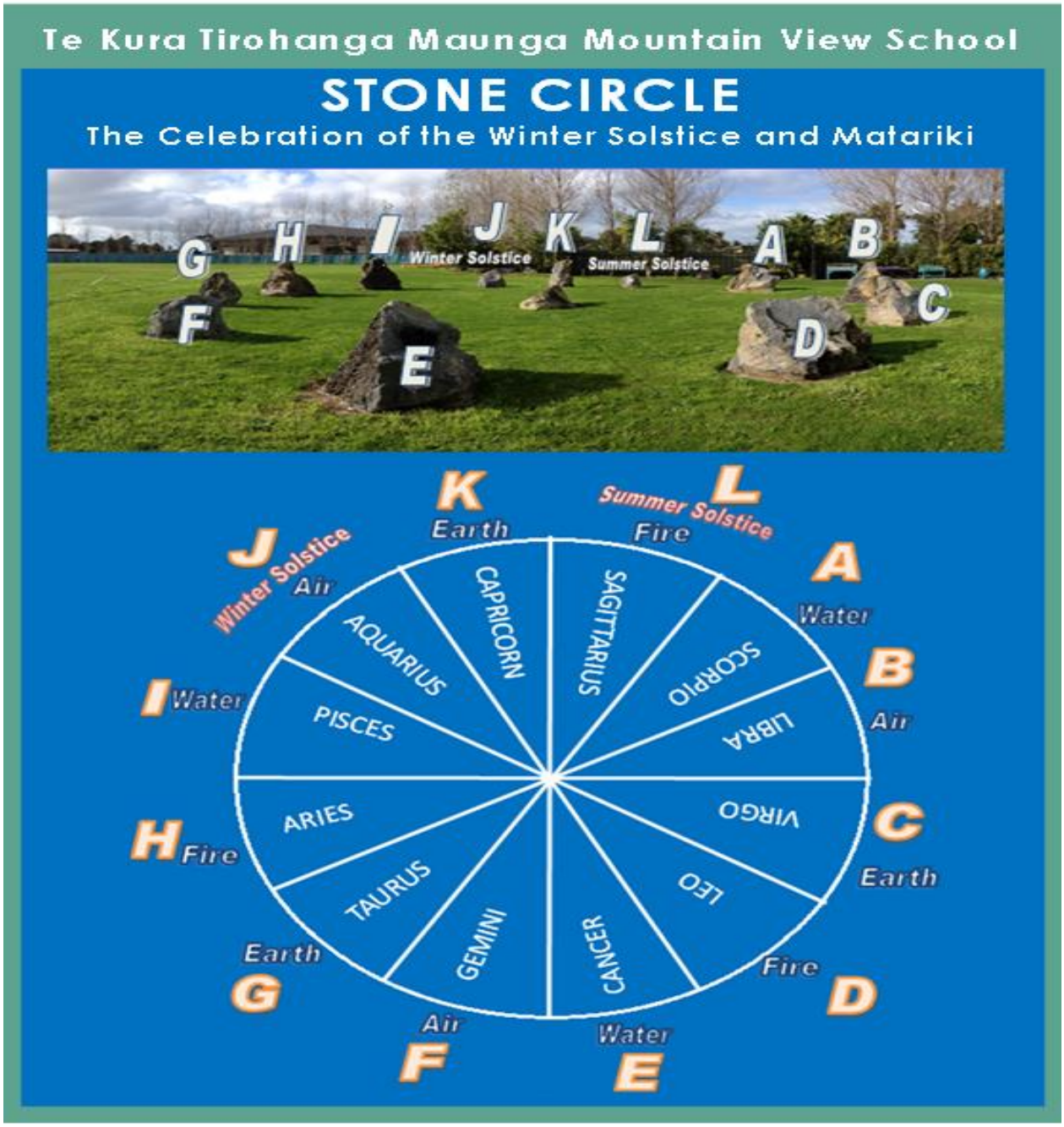
Mountain View School had a dawn ceremony to celebrate Matariki and the Mid Winter Solstice and the creation of their Stone Circle. This ancient form of measuring seasonal time and marking the Winter and Summer Solstices was created on the Mountain View School site using ancient volcanic rock dug up during the Silasila Modern Learning Environment Construction. The giant boulders used to form the Stone Circle erupted from the Mangere Mountain volcano. The 12 stones were carefully chosen and positioned to form the 12 signs of the Zodiac and to exactly measure the Mid-Winter and Mid-Summer Solistices using the central marker stone.

Mountain View School children and families and Kaumatua assemble by Stone Circle before dawn

Kaumatua bless Mountain View School Stone Circle

Sun coming up on Mid Winter Solstice Stone

Sun striking Mid Winter Solstice Stone



Mangere Mountain the source of the ancient stones looms as a backdrop to the Mountain View School Stone Circle.

Selected Sabbatical Readings & References

ACECQA (2016), *The Environment as the 'Third Teacher'*. Australian Children's Education & Care Quality Authority. Retrieved from http://files.acecqa.gov.au/files/QualityInformationSheets/QualityArea3/TheEnvironmentAsTheThirdTeacher.pdf

Akinnaso, F,N. (1992). *Schooling, Language and Knowledge in Literate and Nonliterate Societies.* Society for Comparative Study of Society and History.

Archi-Ninja (2013), *The Third Teacher: Learning Through the Environment*. Retrieved from DOI: http://www.archi-ninja.com/the-third-teacher/

Brown-Jeffy, S., & Cooper, J. E. (2011). *Toward a Conceptual Framework of Culturally Relevant Pedagogy: An Overview of the Conceptual and Theoretical Literature.* Retrieved from http://files.eric.ed.gov/fulltext/EJ914924.pdf

Cambourne, Brian (1988). *The Whole Story: Natural Learning & the Acquisition of Literacy in the Classroom.* Ashton Scholastic, Auckland.

Controller and Auditor-General New Zealand (2017). *Managing the school property portfolio.* Retrieved from: http://www.oag.govt.nz/2017/school-property/docs/school-property.pdf

Cultural Landscapes. Retrieved from: http://whc.unesco.org/en/culturallandscape http://whc.unesco.org/en/list/421

Child Poverty in Action Group, Margaret, C. D., O'Brien, M.A., St John, S.M. (2014). *Our Children, Our Choice: Priorities for Policy.* Child Poverty in Action Group. New Zealand. Retrieved from http://www.cpag.org.nz/resources-2/our-children-our-choice-priorities-for-policy-7/our-children-our-choice-policy-series/

Elmore, R. (2004b). *School Reform from Inside out.* Harvard Education Press, Cambridge.

Edwards, C.P., Gandini, Lella, Forman G.E. (1998). *The Hundred Languages of Children: The Reggio Emilia Approach--advanced Reflections.* Greenwood Publishing Group, Westport, Connecticut, U.S.

Fullan, M. (1993). *Change Forces Probing the Depths of Educational Reform.* The Falmer Press, New York

Fullan, M. (2003a). *Change Forces with a Vengeance.* Routledge Falmer, New York.

Fullan, M. (2003). *The Moral Imperative of School Leadership.* Corwin Press Inc., London.

Fullan, M. (2006). *Turnaround Leadership.* Jossey-Bass, a Wiley Imprint, San Francisco.

Gardner, H. (2004). *Changing Minds. Harvard Business School Press.* Boston, MA.

Geertz, C. (1973). *The Interpretation of Cultures: Selected Essays*. Hutchinson & Co., Ltd., London.

Gilbert, Cass in Gill, B. (1976). *The U.S. Custom House on Bowling Green*, New York Landmarks Conservancy, New York.

Hargreaves, A. & Fink, D. (2006). *Sustainable Leadership.* Jossey-Bass, a Wiley Imprint, San Francisco.

Harris, A., Day, C., Hadfield, M., Hopkins, D., Hargreaves, A., & Chapman, C. (2003). *Effective Leadership for School Improvement.* RoutledgeFalmer Taylor & Francis Group, New York.

Heifetz, R. and Linsky, M. (2002). *Leadership on the Line: Staying Alive Through the Dangers of Leading.* Harvard Business School Press, Boston, MA.

Heppell, S. (October, 2011). *Possible Futures. Ulearn 11.* Rotorua, New Zealand: CORE Education. Retrieved from http://edtalks.org/video/stephen-heppell

Hone Lucy, (2016). *What Abi Taught Us*. Allen & Unwin, Auckland, New Zealand.

Huffington, Arianna. (2016). *The Sleep Revolution Transforming your Life One Night at a Time*. WH Allen, United Kingdom

Kane, R. (2014). *The vision of Mountain View School*. Building Today Magazine, Steel Construction New Zealand, Auckland.

Ladson-Billings, G. (1995). *Toward a Theory of Culturally Relevant Pedagogy Teaching and Culture*. American Educational Research Journal, 32(3), 465–491. Retrieved from https://pdfs.semanticscholar.org/6fb5/45a918f7a030bc1d3d1904c7ee49db2b98cc.pdf

Tūpuna Maunga o Tamaki Makaurau: *Tūpuna Maunga Integrated Management Plan*. (2014). *Retrieved from* http://www.aucklandcouncil.govt.nz/EN/AboutCouncil/representativesbodies/maungaauthority/Pages/tupunamaunga.aspx

Mangere Mountain.
http://www.mangeremountain.co.nz/

Malaguzzi, L. *The environment is The Third Teacher*. Retrieved from DOI:https://static1.squarespace.com/static/509c0d15e4b058edb8f35a86/t/50ec7590e4b0a0ad0261576c/1357673872861/TTTIdeasFlashCards.pdf

McLachlan, S.L. (1996). *The Power of Visual Language Maori in Illustration in Beginning Readers*. Unpublished thesis. University of Auckland.

McLachlan, S.L. et al. (2000). *Whakatere Waka SAILL.* Presented at 18th World Congress on Reading, Auckland.

McLachlan, S.L. et al. (2002). *The Role of Research in Maori Student Achievement at Mountain View School*. Unpublished paper for the Educational Review Office report, Auckland.

McLachlan, S.L. (2004). *Vision with Action – Closing the Equity Gap A Practitioner's View*. Presented to the First United States – New Zealand Round Table on Education Policy, University of Pennsylvania, Philadelphia.

McLachlan, S.L. (2006). *Developing a Quality learning Environment*. Principal's Sabbatical Report. Retrieved from http://www.educationalleaders.govt.nz/content/download/735/6037/file/sue-mclachlan-sabbatical-report-06.pdf

McLachlan, S.L. (2006). Partnership p186 in *'Effective Literacy Practice in Years 5 to 8'*, Ministry of Education, Learning Media Limited, Wellington.

Milne, B. A. (2017). *Colouring in the White Spaces: Reclaiming Cultural Identity in Whitestream Schools.* Peter Lang Publishing Inc., New York.

Ministry of Education. (2007). *The New Zealand Curriculum.* Learning Media Ltd., Wellington, New Zealand.

Ministry of Education, (2014). Modern Learning Environments: Questions and Answers. Wellington: Ministry of Education.

Ministry of Education. (2014a). *Modern learning environments.* Retrieved from www.minedu.govt.nz/NZEducation/EducationPolicies/Schools/PropertyToolBox/StateSchools/Design/ModernLearningEnvironment/MLEDQLSStandards.aspx

Ministry of Education. (2014b). *Shaping education-Future directions*. Retrieved from www.shapingeducation.govt.nz/2-0-future-direction-of-education/property-programme
Mountain View School Charter. (2017). Retrieved from
DOI: www.mountainviewmangere.school.nz

Neuman, S. & Celano, D. (2006). *The Knowledge Gap: Implications of Levelling the Playing Field for Low-income and Middle-income*. Paper presented at AERA Conference, San Francisco.

OECD (2013a). *Creating and sustaining innovative learning, in OECD, Innovative Learning Environments*. OECD Publishing, Paris. Retrieved from
DOI: http://dx.doi.org/10.1787/9789264203488-10-en

OECD (2013b). *Innovating the elements of the pedagogical core*, *in OECD, Innovative Learning Environments*. OECD Publishing, Paris. Retrieved from
DOI: http://dx.doi.org/10.1787/9789264203488-5-en

Robinson, Ken. (2001). *Out of Our Minds Learning to be Creative.* Capstone Publishing Limited, Wiley, Chichester, UK.

Roth, Bernard (2015). *The Achievement Habit*. Harper Collins Publishers New York

Ryan, J. (2006). *Inclusive Leadership.* Jossey-Bass, a Wiley Imprint, San Francisco.

Simmons, Lawrence., MacDonnell, Arch., Reynolds, John. (2014). *Blutopia*. Six-Point Press, Auckland.

Spillane, J.P. (2006). *Distributed Leadership.* Jossey-Bass, a Wiley Imprint, San Francisco

Youth Suicide in Stuff News. (2017). Unicef releases damning child welfare report. Retrieved from https://www.stuff.co.nz/national/93705446/unicef-releases-damning-child-welfare-report

Venice Architecture Biennale 2016. Retrieved from
http://www.labiennale.org/en/architecture/2016