**International Baccalaureate
Primary Years Programme in Aotearoa New Zealand**

FINAL REPORT FROM THE INDEPENDENT EVALUATION

'A case study in whole-school innovation'

Saville Kushner
Acacia Cochise
Matthew Courtney
Claire Sinnema
Gavin Brown

**University of Auckland
Faculty of Education**

SEPTEMBER 2015

ACKNOWLEDGEMENTS

CONTENTS

A SUMMARY OF THIS EVALUATION

(1) An inquiry-based, whole-school curriculum innovation

An 'ice-breaker':

The Primary Years Programme of the International Baccalaureate places the student and their experience at the heart of the curriculum. This is an enquiry-based curriculum, and, as such, much of its quality resides in the knowledge being generated by students and their teachers. We will see this in some detail early in this report. But we open with a glimpse into that experience and into the way knowledge is generated. This extract reaches into the heart of the PYP experience. What needs to be considered is what kind of innovation strategy can give rise to such interactions, and what this evaluation identified was a whole-school approach, with the school itself as the 'unit of change'. It is appropriate, too, to start an evaluation of a student-centred curriculum with the words of students.

Students
"We might have an inquiry topic, for example my topic is currently alternative energy and why it is the future…we are learning how to write an exposition and basically we write the exposition on our inquiry - and what that does is, it means that we are actually engaging with inquiry and without even knowing it sometimes we are learning a different style of writing within the inquiry." Another student added that within the process they may also learn a different style of reading as well.

They described their experience of *Maths Inquiry* mentioning that they might do an activity such as creating a survey and then learn how to graph the results. Another student described how her class was split into two *Maths Communities*, one that works with the teacher and one that is independent. All might work on a simple sheet of word problems, which help the students to unpack and record their problem-solving strategies. They have to come up with as many strategies as they can, and then share them. They were clear in expressing that the point of this activity was to come up with and share the different strategies - not necessarily to solve the problems.

Learning inquiry methods
In this class, the teacher Nicole asks kids to think about *what human made systems are*. Kids respond by giving examples of: *laws, treaties and how treaties have impacted people, governments, and the education, health and justice systems*. After these ideas are identified and written on the board, located off to one side of the classroom, Nicole then asks the kids to work on honing these "big ideas" down to questions for inquiry. She also explains the difference between

open and closed questions, asking the kids to keep this in mind as they come up with sub-questions and other questions that might link to their central research idea. Kids go on to suggest these sub-questions*: how did Hitler come to power? How do different government systems elect leaders? how do governments have an impact on the military?,* and *what was the impact of the Treaty of Waitangi on New Zealand?*

Nicole is addressing the kids again, asking them to think about responsibility as they continue to form questions in their inquiry. You have noticed, over your time in the school that responsibility is a key word, quite frequently used by teachers to guide the kids through activities of inquiry and idea mapping. However, responsibility seems to be used synonymously with a type of unspoken "moral or ethical consciousness" as kids are put in intellectual positions from which they are encouraged to "think of solutions to problems like pollution and/or environmental issues, usage of space." One girl, in another class was even working on a project to invent a juice with less sugar to combat diseases like diabetes.

Nicole has asked the kids to talk to each other about key concepts in their inquiry, and is also in the process of handing out a task that will help the kids to "put ideas down and write umbrella questions and subsidiary questions and how they link to the central idea and key concepts," and wants them to sort their ideas under the headings of "function" and "responsibility". The kids have sorted themselves into groups, and you move to listen in on the one next to you - they are trying to figure out how to sort ideas into the columns of "function" and "responsibility" on the worksheet. They seem at a loss. Nicole gives an example of how "laws around going to war fall under 'function', and 'how did the Treaty of Versailles impact the world?' fits under 'responsibility'". The groups you are sandwiched between both seem to be struggling through this exercise, and have not yet asked Nicole for any help.

The International Baccalaureate offers an inquiry-based curriculum at three levels of schooling: Primary, Middle and Secondary (Diploma). This evaluation is of the Primary Years Programme in Aotearoa New Zealand. It takes place in the context of a New Zealand Curriculum which, itself, promotes classroom inquiry, and in which there are already schools adopting an approach to the education of primary students based on classroom research, subject integration and 'internationalisation'. The PYP has been adopted by 14 schools in New Zealand, all but one in schools with populations of high relative economic status.

What distinguishes the PYP in this context of State approval for research-based curriculum is that it proves a legitimising (accreditation) process, a given conceptual framework, a support infrastructure of professional learning and development, and a process for self-review. This is a comprehensive package. For those schools which choose this package there is a stipulated curriculum (schools *"will"*) but extensive freedom for classroom-based self-determination.

One distinctive feature of the PYP in New Zealand is that it is implemented in each case as a whole-school innovation. The field of school curriculum innovation has relatively few examples of whole-school transformation (though there are many individual initiatives that have implications for a whole school), and here we have 14 examples. In fact, it is unlikely

that the PYP could be implemented in any other way, given its integrated and transdisciplinary focus. Integrated studies has been something of a holy grail in schooling, and the Primary field offers greater opportunities for it.

Results of data analysis from a sample of these schools were supportive of the notion that achievement at PYP schools exceeds that of achievement in comparative high decile primary schools. More generally, the report suggests that the PYP programme can support enhanced academic learning outcomes among students in New Zealand, at least in economically high decile schools. We offer no causal analysis that might explain this, though we make two interesting observations. One, is that a number of schools talked of a *"dip"* in achievement when they commenced the PYP, possibly speaking to one of the principal themes of this report which is that the PYP, for successful take-up and implementation requires whole-school commitments. This takes time to craft and this may (they say) account for the dip. The second observation – seen throughout the school studies that follow – is that the PYP not only makes transparent the nature of learning and learning tasks, it incorporates this into the taught curriculum. Students are engaged in a discourse *about* their learning.

In terms of curriculum comparisons, there is a high degree of coherence between the PYP and the New Zealand Curriculum. Schools making the transition to IB accredited status (World School Status) find the innovatory process challenging - including selling the whole-school innovation commitment to the staff - but not the familiarity with the idea of research-based learning nor alignment with New Zealand curriculum values.

For the most part, our evidence suggests that the PYP reflects widely-accepted expectations of an inquiry-based curriculum. The following is one of the classic definitions[1] used by Jerome Bruner in his curriculum project, *Man: a Course of Study (MACOS)*:

1) To initiate and develop in youngsters a process of question-posing (the inquiry method);
2) To teach a research methodology where children can look for information to answer questions they have raised…and apply it to new areas;
3) To help youngsters develop the ability to use a variety of first-hand sources as evidence from which to develop hypotheses and draw conclusions;
4) To conduct classroom discussions in which youngsters learn to listen to others as well as express their own views;
5) To legitimize the search; that is to give sanction and support to open-ended discussions where definitive answers to many questions are not found;
6) To encourage children to reflect on their own experiences;
7) To create a new role for the teacher, in which s/he becomes a resource rather than an authority.

We found evidence of each of these in our observations, by degree. Our observations were not sustained enough to say with confidence that #5 is realized to a point where students learn to manage uncertainty, nor whether #6 is present to the extent that knowledge is made subjective and personalized - but we would not deny that these are accomplished.

In the balance between process and outcomes there is a significant emphasis placed on the quality of classroom interactions as *creating conditions* for achievement, while not directly coaching for achievement. The PYP, that is to say, implies a distinction between educational achievement and educational quality, and has a range of criteria, other than test/exam

---

[1] Whitla et al, (1970)

success, to define educational quality. Having said this, it is interesting to note that, in comparison with other parallel curriculum initiatives elsewhere (see Section: 4) the PYP is a welcoming site for educational theories and philosophies, but has none of its own that is explicit. Rather, its driving vision is a *social* one, the ideal moral individual in the ideal world.

It helps to position PYP among alternatives to the conventional academic, subject-based primary curriculum and we do this in Section 2. In fact, the PYP offers a more radical alternative than the high-profile *Cambridge Primary Review* which proposed, in similar terms, a concept-based curriculum, but a less locally-embedded curriculum than in Reggio Emilia. In terms of advocating the intellectual autonomy of the student, promoting a democratic view of knowledge and redefining the teaching role as one of 'knowledge-resource' rather than 'knowledge-determinant' the PYP alternative is less radical than a Summerhill School, for example, but still provides an alternative to the way knowledge is seen in conventional schooling.

The PYP takes its place in the world of schooling, young people and their teachers move through the same daily reality of routine and ritual, revelation and surprise. This is innovation – but it is still schooling.

Students

"…not everybody is able to achieve at the same level - the world needs people to collect the rubbish every Tuesday, and we need supermarket checkout operators, we need politicians, we need bankers, we need accountants- we need a whole range of people… people are going to be at different levels through life…. what we're saying is that IB caters for that.

[…]

"…there is competitiveness inside the school but what it is is pair by pair…how we rank the classes is by like-minded students. So they put good mathematicians in one class, good writers, good readers…there's competition within the classrooms so they try to be the best because there's other people in there… Another boy says, *"that's just human nature*," and one boy said how this *"gives them motivation*". They went on to note, *"at other schools they just rank them… if you are in P, you are the worst in P…* "Another student commented that he was *"fine with this structure"* and the competitiveness, and added if (he) was in P, that would motivate (me) to get better. His friend added that the two systems *"are different in their own good ways.*"

---

(2) This evaluation

The International Baccalaureate Regional Office (Singapore) commissioned the University of Auckland to conduct this independent evaluation of its Primary Years Programme (PYP) in New Zealand schools. At the time of this evaluation there were 14 such schools, a mix of public and private, all but one school in high economic decile areas. We look at the PYP as a curriculum innovation, since it is both a departure from New Zealand historical practice, and a novel approach for each of the schools. In fact, the International Baccalaureate (IB) can be seen as an innovation programme in itself, since it proceeds by inviting schools and nation states to enter into curriculum innovation.

The central feature of the PYP (which is distinct from the Middle School Programme and the secondary school Diploma) is a curriculum which 'transcends' (IB's preferred term) subject-based or skills-based learning to implement an inquiry-based learning approach. The result is what is known as a *"transcdisciplinary"* curriculum. The PYP also departs from an outcomes-based curriculum - one driven, by measurable outcomes - in favour of a process curriculum in which there is a focus on procedural quality – the quality of classroom interactions. The emphasis is not directly on preparation for tests and exams, but on *creating the conditions* for independent learning and attainment. The principal and additional innovation feature, here, is the unpredictability of what it is that students will learn. This is not at all to say that teachers disregard learning outcomes - the IB is not so radical (as we will see later) - but that the emphasis is on classroom interactions as a stimulus for more effective learning.

How, then, do we evaluate such a programme and how do we represent it?

Such a complex innovation requires a suite of methods, and so this evaluation speaks in multiple voices. We conducted:

- a document analysis comparing the PYP with the New Zealand Curriculum;
- an analysis of progress and achievement data from as many schools as were able to provide test data;
- two observational studies of PYP schools (an Intermediate school and a Primary school) including detailed classroom observations, interviews with staff and students, attendance at school meetings, and separate interviews with school Principals;
- a theoretical analysis comparing PYP with other such curriculum innovations;
- two workshops with PYP Principals and Co-ordinators to verify and amend data.

These are found in separate sections of this report, and each one allows you to 'read' the PYP in distinct terms. Do they add up to a coherent picture?

What these add up to is a case study. Case study is a way of capturing many aspects and perspectives of a known system – holistic or comprehensive. In this case, the 'system' is the PYP as an innovation in Aotearoa New Zealand. We portray it in these different ways – in numbers, in words in experiences in text – because this is how it exists.

The leaning of the report is towards qualitative analysis, in that there is no simple algorithm that will tell you if this is an innovation of quality and one that is successful. This depends on the judgement the reader makes and what they want to get out of reading this report. Along the way we give the reader some insights, thoughts and conclusions. Some of the sections in this report are lengthy and demand disciplined reading. This is not our indulgence, nor our failure to keep it short. It is because without full immersion into the detailed experience of this curriculum innovation you will have only a superficial sense of it, and one that will not serve well for the making of judgements, and least of all for those who might be considering joining this innovatory programme.

We open the main report with our two detailed school observation studies. This is purposely to induct the reader into the richness of detail in PYP practices. Of course, this makes for demanding reading but it carries its rewards in terms of enhanced understanding.

An immersion into curriculum alternatives has broad significance beyond just understanding the PYP. We live in times of some political and theoretical volatility when it comes to schooling. There are at least two momentous global narratives at play in how we see the educational mission of schools, each pulling schools in opposite directions. One would have schools comply with standardised, pre-specified (often behavioural) outcomes - emphasising achievement scores and their improvement, prioritising disciplinary knowledge and a universal academic curriculum. The other follows a trajectory of moral advance in which we concern ourselves with children's rights, with nurturing creativity, reaching for transcendental forms of knowledge and curriculum diversity. These are not compatible, though their presence together creates a constructive tension from which we learn about what society values in education - what counts as educational quality. Interestingly, that tension is present in both the PYP and the host New Zealand Curriculum, as we shall see[2]. We look for educational quality in the confusing mix of standardisation, diversity, compliance, autonomy, meeting societal economic goals or promoting an equitable and caring society. Neither of the two narratives outlined above has a monopoly over any of these single items. But somewhere in this mix you will be able to locate the PYP and its promises and shortcomings.

In our Interim Report we outlined some of the origins of the International Baccalaureate. Though it has a pedigree in education for the international elite (Fox, 1985) this does not diminish the potential of IB-style inquiry-based learning for students from lower social-economic backgrounds. We raised the question in that report as to whether the PYP might have a particular address on how to shape education for Maori and Pasifika cultures. We pick up that issue in the concluding section. We also raised the commonly discussed issue as to whether the PYP (in fact, the IB) is a single curriculum implemented in 130 countries; or whether it is a form of 'franchise' implemented in 130 different ways - i.e. whether the IB fosters diversity or compliance. This Final report is clear on the matter. Though PYP staff clearly find it a nurturing experience travelling to international professional development workshops, and while the IB clearly has a strong interest in protecting its brand identity, local contexts, talents and priorities will always assert themselves. PYP Principals are always anxious to reiterate that the PYP and the New Zealand Curriculum (NZC) map seamlessly onto one another. Both study school Principals said that had the PYP not arisen as an option they would have steered the school to an inquiry-based curriculum within the existing

---

[2] Though not so prominent and controversial as in the IB Diploma where inquiry clashes more soundly with the achievement agenda.

curriculum. The Learner Profile is said frequently to give an inspiring framework, it appears to be an enabling, rather than a constraining, framework.

Validity and this report

No evaluation of programs as complex as this can lay claim to be 'true'. We must settle for lesser claims – to be plausible, acceptable, hopefully, insightful. We have aimed to do this in a number of ways. One way, methodological, is to allow the PYP to be represented in diverse forms – through story, number and document analysis. This itself speaks to the complexity of what has been created here, and it honours the range of ways in which people value the PYP. The other way, procedural, is negotiation. The two school studies were negotiated with the schools concerned before being finalised – and this included individual negotiations where data was individually attributable. The Interim Report was sent to PYP schools leading up to a meeting of the school Principals network where we invited critical feedback. The two schools studies were disseminated later and feedback invited at a second meeting of that Principals network. There we presented questions and issues arising from our analysis, and invited responses to them. All of these fed into this Final Report which was, itself, sent as a draft to PYP people for comment and to the International Baccalaureate regional office in Singapore. The report and its conclusions were shaped by a mix of our field enquiries and these negotiations. Through these processes this report has been verified as a reasonable representation of the PYP program in this country.

One of the seminal works on validity for qualitative evaluation came from Ernest House[3]. He proposed three tests for the validity of case studies: *'Truth', 'Beauty'* and *'Justice'. '* Truth' concerned the nature of the claim the evaluators made for the study; 'beauty' referred to the aesthetic and coherence of the narrative; and 'justice' concerned its ethic and its awareness of equity. We have been guided by these principles in conducting this case study evaluation and in negotiating and reporting it. For 'truth' we have aimed for plausibility, as we have said, and the report has been vigorously negotiated to meet that test. The variety of narrative forms meets the criterion of 'coherence' and narrative completeness. The 'justice' criterion we meet in two ways: first, in ensuring that all parties have equal access to the evaluation, including students. We make no distinction between a student's rights and the weight of their voice as compared to those of others. The second way is to address the question of how the PYP confronts issues of educational equality – especially in relation to cultural diversity and socio-economic disparities.

---

[3] House, 2013

SECTION ONE
Two School Observations

We start with 'the story' voice of the evaluation. Before we talk about the PYP curriculum and innovation the reader needs to know just what it is. This is the purpose of this section. Here, we look at detailed studies from two PYP schools in Auckland – one, a Primary School, the other, an Intermediate School which opts to use the PYP.

The story echoes how we talk and think about our educational work[4]. Case study methods for evaluation were developed as a democratic form of inquiry[5], a way of sharing interpretive control with the practitioner and with the reader. These studies have been negotiated with the two schools and with individuals in them, and with other PYP observers, too. They have changed as a result. They will change again as you read them and bring your own experience and judgement to them. For this reason it is important to include the whole story as we have grasped it, and not to present only 'findings' or 'conclusions'.

Observation studies allow us to see curriculum in action, it allows the observer to test the claims made in written documentation against the reality of practice. It also allows us to see the complexities of practice and experience that do not appear in documentation - and also how action is determined at least as much by context and local circumstances as it is by published intentions. At the end of this section you will find a detailed methodological account of how these studies were conducted. For now, you will be aware that they are made up of interviews with school staff and students, observations of classrooms and other school settings, the reading of relevant documents and – well, just 'being there' – watching the life and rhythms of the school.

Over the time we spent conducting the two school studies we noticed how PYP raises questions of knowledge and control. There is an interesting mix of individualism and collective consciousness with students inspired by their teachers but often working independent of them. We will see in this account how teachers model the skills of reasoning and methodological decision making as they engaged in their own processes of inquiry-based pedagogical learning. The direction of these efforts are towards bringing into question educational authority, knowledge and validity and seem to move in the direction of a democratic school culture. Whereas the NZC implies democracy as one of the purposes of schooling, the PYP enshrines democracy in its practices – not just education for democracy, but democracy in education. You will see this throughout these studies. Indeed, in the second

---

[4] Denny (2015)

[5] MacDonald & Walker, 1975: "*There seems to be a need to find ways of portraying this experience and this milieu so that prospective users of new programmes can relate them to their own experience, circumstances, concerns and preferences.*" They argue that case study is democratic in the sense that it involves the practitioner in the construction of knowledge about their work. "*Whereas experimental method is conceptually asocial, the most important feature of case-study in the human sciences is that it is pursued via a social process and leads to a social product.*"

study – Auckland Normal Intermediate – the Principal talks directly about flattening hierarchies of organization and knowledge and using the PYP to give shape to a democratic school.

(1) Diocesan School for girls

First impressions

It seems that all the classrooms in the junior school look out on this space- this big shared patio like a clearing in a lush campus of forest and fine architecture, modern and classic. Windows are everywhere- the sun is bright and you are aware of the windows because you are momentarily blinded by the glint. Then, a cloud passes by and you feel like you can see everything- into every classroom- you can see to the far right, little girls- are they wearing pinnies? And then bigger girls sitting in a semi-circle listening to a teacher read a book. To the far left- are they painting? Must be an art class. You take in such details in the 30 seconds it takes to cross this space- and then you realize, as you fancy you can see everything- everyone can see you! This scrutiny, speculation, curiosity and discovery work both ways.

As you enter the junior school, after pulling open one of the beautiful wooden doors, are they cedar? your feet fall on soft, mute carpeting. Sue's office (the Head of he junior school) is to your right.   The, reception area and a young lady with a pixie cut sitting with a black phone pressed to her ear - two girls in uniform waiting quietly and patiently at her side, taking notes - nodding and smiling at your entrance and then glancing back briefly at the girls before jotting something down. You don't want to bother her just yet so you make your way towards the low table and the set of chairs and make yourself comfortable. You glance to your left and you notice another office, the financial assistant.

You've been on campus for about ten minutes, fifteen if you count the time you took orienting yourself and the walk from the senior school, past the building with the pool and the walk across the soft squishy AstroTurf covering the play area.

The chair you're sitting on is too comfortable, and you start to relax. You are about 30 seconds away from putting your feet up on the chair next to you before you recall where you are and that you will be meeting with both Amy and Sue in about five minutes to discuss a series of classroom visits later on in the term. You sit up straight, and gather yourself by flipping through one of the books on the table- a newsletter of sorts, or something closer to an American year book highlighting trips, activities, school awards, plays, performances and community work and achievements girls have made both in the junior and senior schools. Or maybe a travel album, showing adventurous expeditions to unknown places. The walls are also covered with artwork made by the girls and there is a glass case next to the office with sculpture and pottery shapes created by the girls- all these are proudly and painstakingly displayed so that they appear in the best light even though the craftsmanship of some seems to be… less posh than their surroundings.

You get up and wander down the wide-open hall towards the closed wooden doors at the end. As you approach them, you can hear music- though you don't

recognize the song - and girls laughing. You peer through one of the glass windows and see a big room, the Junior School Hall, with raised stages and girls lined up-by height it seems- shorter and smaller ones on the outside-singing. Are they practising one of these performances? You realize you haven't picked out the teachers because they are up on the stage or off in a corner- so integrated and so in tune with the action on the stage that all in this room have become one- united in a single purpose. You back away lest someone notice your spying and fall out of sync.

You start walking to the left, down the hall as you can see a large poster with the familiar PYP chart of central idea and inquiry- this is the first evidence you've come across in the school of the PYP curriculum language. You haven't been in classrooms yet though- and from your previous experiences, you expect that you will find it there.

(As a matter of fact, you are correct, and during your classroom observations at Dio- you see evidence of PYP language, student agency and inquiry everywhere- the classrooms are covered in this language- especially the year 1 and 2 classrooms).

You realize the meeting will be starting any minute so you hurry back to the low table and sit down again. The girls have left the reception area now, so you decide to stand and stroll over to the desk and tell the young lady that you're here for a meeting. She smiles at you, asks you to sit and then tell you she will email Amy to let her know that you're here because Amy is in a class and checks her emails between classes- and this is the best way to contact her. You say, no worries, take your time and settle yourself back at the low table and resume riffling through the books and papers filled with photos. Five or ten more minutes of this calm, the plush blue of the rug, the warm lighting and the cool air will do you good.

PYP at Diocesan

Diocesan School had been pre authorised by the time Suzanne came, but still had to go through authorisation by the IB as to whether the school was properly set up to teach the PYP. This they did successfully. But the review process is continuous and the school has to both reflect on their alignment with IB values all the time, and has to remain aware of the criteria. The awareness of innovation is ongoing.

The continuous nature of the curriculum innovation is partly what makes the IB an expensive curriculum. New teachers have to be trained; existing staff are to be professionally developed, there are regular meetings of the PYP network and the regional international community requiring flights to Perth, Singapore and such like. The annual cost is well in excess of $30,000 and could be much higher if the resources were available. For example, a new Art teacher had to be sent for training in integrating Art across the PYP curriculum.

The curriculum is increasingly integrated as 'specialist' (discipline-based) teachers are inducted. PYP teachers will invite specialist teachers to their planning meetings and invite them to think of how teaching can contribute to inquiry projects under development. *"The Art teacher can do that very nicely…PE is a little bit harder - ".* Maths is already integrated in that Maths teachers are Homeroom

teachers and plan the inquiry themes. Specialist teachers include Language (Spanish, French, Mandarin), Health and PE, Visual Arts, Music and Science and Technology. The last of these is deeply 'interwoven' - the Science and Technology teacher will often be in the Homeroom with the PYP teacher. Library resources are acquired on that same principle of curriculum integration.

The two Homeroom teachers in each year work very closely together (Year 6 has three classes, allowing for smaller class-sizes in preparation for transition to Junior High School). Each Homeroom teacher in a year group would go back to the previous year's teaching teams to ensure continuity. Planning allows for contemporary events to be brought in to the curriculum as well as specialist teaching since the content of the curriculum is given by the emerging experience of the young people and not pre-determined. The Learner Profile is mapped onto the Key Competencies in the NZC to ensure alignment - although, as a private school, there is no requirement to follow the national curriculum. The Education Review Office (ERO)[6] reviews the school in its own terms, and not again the NZC.

In fact, that space for school-based curriculum action is narrowing in New Zealand:

"I think so. I belong to a professional development group - we meet once every 5 or 6 weeks with a facilitator to talk about things that are working in our schools, things we might be struggling with. They're all State schools but me…and they're low-decile, intermediate to a high-decile - and when I hear what they're struggling with what they're mandated to have to do I can understand that it is getting far more difficult out there. Far more difficult" (Suzanne).

The Foundation years programme at Diocesan School for Girls for children aged x to x is consistent in action, either teacher facilitated or student-led. In years 1-3 the activities/learning come across, during our visits, as more teacher led or teacher facilitated but that could be due to the young age. Years 4-6 shift more towards teacher-facilitated activities. Inquiry, questioning, and guided "wondering" are strongly apparent, though this takes many different forms. Teachers use provocations, prompts and specific language around the Learner Profile to inspire students to action and inquiry.

It is also clear the school houses the PYP curriculum: strong elements of it, such as the language and terms, the way inquiry rests at the heart of teaching, understanding, and the ways in which the girls' understanding might be presented to others. PYP is in action, is action, movements, and exemplified in the constant stream of activity, motion, dance, singing, artistry and aesthetics.

A large poster in the main hallway of the junior school provides the following guidance and insight into the central ideas of the PYP curriculum:

Year one: *our values and beliefs shape our identity*

---

[6] The ERO is the body that occupies the space which, in other countries is occupied by school inspection – OfSTED in England, for example, IGAENR in France. Unlike OfSTED, however, the ERO, as yet, works on a collaborative and negotiated review process with schools. This provides schools a not insignificant space for curriculum self-determination which is conducive to the uptake of the PYP.

Year two: *all places on earth have special features that make them unique*
Year three: *cultural identity can be shown and retained in many ways*
Year four: *learning is a fundamental characteristic of life*
Year five: *through the arts people use different forms of expression to convey their uniqueness*
Year six: *we all have different beliefs and values that are conveyed through rituals and the way we live our lives*

These are a mix of rhetoric and reason: wholesome moral statements, but with challenging implications behind them. The basic message is one of individualism in the sense that each of us is shaped by our 'values and beliefs'. Even 'culture' is not overwhelming as an identity – it can be expressed in diverse ways. Our individualism reflects the laws of natural diversity.

Individualism in schooling remains a radical idea, even though it is expressed as a principle and as a goal. Schooling still operates as an industrial process, standardises learning, assesses against group norms. How does the PYP deal with individualism in learning? Theoretically, it does so by emphasising the Learner Profile, the vision of what dispositions and behaviours the ideal PYP student should reflect.

As illustrated below, we found that elements of the Learner Profile were exemplified in occasional classroom observations made at Diocesan School for Girls:

Inquirers and Thinkers*: In an art class. The teacher describes a competition; the girls ask questions of every stage some of which are quite complex relating to an egg-decorating competition. Basic rules: one entry per student, as many eggs as possible, but they have to fit under one category. More girls are asking questions designed to cheekily get around those rules and have a better chance of winning. One girl wants to know if she can enter an egg that ticks all the categories; another girl wants to know if she can give an entry with 20 eggs expressing different categories. At the same time, girls display curiosity, by confidently asking where you are from, what you do, what you are doing at their school.*

Knowledgeable*: Girls demonstrate mastery of technology, tablet applications, how to create/perform newly gained knowledge, how to ask questions - though Years 1 and 2 need significant guidance in how to form basic questions and how to harness their curiosity into self-directed inquiry.*

Communicators*: Girls clearly asking both peers (horizontal) and their teachers (vertical) for help, leadership and guidance, feedback and feed-forward during research and the creation of their projects.*

Principled*: In a class, girls discuss the ethics of pig-brain dissection. When viewing the end-of-year exhibit, some girls present research they've done on New Zealand social justice-themed organisations.*

Open-minded: *Girls are unafraid to research cultures, customs and languages including languages they'd never heard of. From Year 1 to Year 6, you observed conscious cooperation, exploration and engagement with obviously unfamiliar ideas.*

Caring*: The girls show a carefully prepared courtesy towards you. They graciously and unselfishly offer you their chairs, ask if you need to rest, and are*

polite. The Foundation Years teacher tells you a story about a field trip the "littlies" had taken to see their favourite tree, and how one girl had fallen down. When her parent went to help her, the teacher asked her to wait and told her that the other girls would help her right herself, and the little girls did, comforted their fallen comrade then continued walking.

Risk-takers*: Girls show you around the school, and display courageous behaviour as they are forthright when speaking to you and showing you their inquiries. They seem able to strike up a conversational relationship easily and approach you with questions, critiques and share interpretations about the content of their lessons.*

Balanced*: Girls exhibit thoughtful multi-faceted responses in presentations by giving thoughtful feedback to their peers, and sharing their learning process. The girls also show cultural sensitivity through admitting any uncertainty and showing a willingness to embrace and engage with different ideas and traditions, consideration of others and exploration in research, and multi-dimensional personalities.*

Reflective: *Girls give thoughtful responses to questions and on their actions and attitudes – noticeable in pauses and facial expressions of reflective engagement. Girls question themselves during inquiry are critical, clear and connected to events and issues larger than themselves.*

Teachers at Diocesan use language centred on the Learner Profile; in fact aspects of the learner profile are clearly displayed and posted in every room. Staff discuss how they deliberately interweave language, *"be a risk taker,"* and consciously and creatively planned their classroom lessons, provocations and off-campus activities. Furthermore, whether due to the younger ages of the children and the single-gender student body, there seemed to be a more conscious, deliberate approach to the PYP curriculum exemplified in the inclusion and frequent repetition of PYP language when teachers speak to the girls - calls to action like *"be a risk taker!"* teachers asking girls to explain which aspects of the Learner Profile they felt they exemplified most or how they might engage with one and engage with a lesson through its lens.

Chris, the head Foundation Years teacher, made mention of what she described as a *"difficulty with shifting from theme-based lessons to inquiry-based lessons."* When asked to clarify what she meant, she alluded to a general struggle of non PYP *"teachers out there in the big wide world"*. Chris had worked with with Reggio pedagogy and her impressions were based on teachers who come to seminars that are based on this pedagogy and how they are struggling to move from theme based to research/inquiry that engages students. Teachers often say they easily fall back into preplanning the module before waiting to see what ideas and questions might come from the children. She also mentioned that sometimes supporting children to develop deep number knowledge, (young children), might need separate work to develop number knowledge, and that might not be directly related to the inquiry at the time.

Communication between curricula
Diocesan School has a complex, multi-layered curriculum comprised of strong female energy, religious values, the PYP programme and the New Zealand Curriculum. In fact, using the analogy of the different vantage points of a painting, one could categorise the religious and female aspects as the foreground and the

PYP programme as the mid-ground that actively integrates and underpins the background of the NZC.

The more spiritual (or moralising?) elements of the curriculum are subtle in the way they are interwoven into the dialogue between teachers and students, and in colourful posters in the majority of classrooms. Posters encouraging girls to consider aspects of *"community, personal best, responsibility, generosity and courtesy,"* are always visible, indeed, *"showing courtesy"* was the topic of the mini-sermon the female reverend gave during the first day of classroom observation visits. There is an underpinning of moral virtues, of decency. Diocesan is very aware of its constituency in this up-market suburb of Auckland with its discreet, leafy streets.

When queried, the assistant principal of the junior school, offered an explanation as to what she thinks the particular flavour of PYP is at her school. Amy identified the *"special character and values"* and that *"I would see the PYP programme interwoven even at chapel"*. For example, the Reverend Moss linked the idea of *"courtesy"* both to the Biblical text - the story of Mary Magdalene and how she *"showed courtesy to Jesus by washing his feet,"* and then continued to unpack which *"courteous actions"* girls might be able to do outside school, such as washing dishes. The reverend concluded her lesson by asking girls to volunteer ideas, which the girls joyfully contributed to: pulling out chairs and holding doors seemed to be the preferred actions. Amy went on to explain that this is one of the ways aspects of the Learner Profile – such as *"caring"* - may be unpacked for younger ages.

Every class had posters with PYP learner attributes and corresponding Bible verses next to them:[7]
The chapter and verse of John 15:12 corresponded to *"Community"*
The chapter and verse of Ecclesiastes 9:10a corresponded to *"Personal Best"*
The chapter and verse of Luke 16:10e corresponded to *"Responsibility"*
The chapter and verse of Proverbs 11:24 corresponded to *"Generosity"*
The chapter and verse of Luke 6:31 corresponded to *"Courtesy"*

There is this, at first sight, curious mix of young girls developing critical insights into, for example, New Zealand institutions in the course of their inquiries; an almost 'finishing school' veneer of politesse; and Christian values.

There is "thinking" here, thought and planning from both teachers and the girls. This taught approach to thinking (underpinning inquiry) is both palpable and malleable in its substance. The approach to ideas and concepts is flexible and open. There is "language", the learning of it, words, concepts, traditions and behaviours. There are local languages being learned, such as Maori and the continuous refinement of the English language is being perfected in the girls. Teachers of the younger years recalled the recent group of Chinese parents that visited in celebration of Chinese New Year and the learning they shared.

---

[7] This is the link to Chapel and the integration of Chapel to learning at Diocesan.

Research takes place in many forms, dialogue, text, books, literature and encyclopaedic references, interviews, the processing of experience, individual and group, and in the technological mastery of iPad technology. The girls "manage themselves" quite well; although the younger years do rely on the guidance and leadership they receive from their teachers, Head of Junior School, assistant principal and reverend.

Good rapport is exhibited throughout these relationships. The girls "relate to others" well, encounter diversity of culture, thoughts, ways of being knowing and doing with courage and curiosity. This is also guided in large part by the teachers. The girls also "participate and contribute" in classroom conversation. English, the arts, health and physical education, learning languages, mathematics and statistics, science, social sciences, and technology are all present in this school – intentionally integrated.

A typical day at Dio
Girls arrive at the Junior School dressed in their dark navy blue uniforms, wearing straw hats. Their uniforms instantly make you recall one of your favorite series of children's books growing up, centered around a little French girl at a boarding school in Paris called Madeline.

Before class, the day begins with exercise and dancing to "world music," and flows into class time and inquiry, maybe the girls might attend chapel that day, art, music, PE being used in the baking of buns for a shared lunch (in the Foundation Years classroom) with a keen sense of an awareness of the over arching PYP Learner Profile and how its elements may sometimes seamlessly slide into a teaching moment or a moment of inquiry.

The loud music brings you back from your musings. It's international. You look up and notice the girls are dancing in synchronicity, student leaders stand at the front - lots of energy is pouring out from the girls. Amy walks over and greets you, she is surprised you are here early - but you say that this was on your schedule. Amy laughs and says, "Ah we assumed that you wouldn't want to see this part - it's only morning exercise.

Ten parents are standing around the periphery watching the girls dance - some even seem to be swaying along to the music. Amy directs your attention to the back of this crowd and tells you, "see those tall girls, some girls even come down from the senior school to join in the morning exercise." This touches you. The overall air is filled with excitement, the girls seem happy to be here, and you notice, even though you are tired and on your third cup of coffee, you are too.

Classes are tightly scheduled and class periods last anywhere from 1½ hours to 45 minutes. There are six periods held in one day. Girls arrive at the school at 8:15am, hang up their coats and stash their bags in their cubbies that dot the halls of the school. Period 1 runs from 8:30-10am, period 2 is from 10-10.45am, morning tea is held from 10:45-11:15am. From 11:15-12pm, period 3 runs and then period 4 runs from 12-12:45pm.

Between lessons, you notice that the girls move fluidly and purposefully through the school to their next destination. You get the sense that they are where they

should be and the girls go where they should go. Their knowledge of the movement and space within the school seems inherent. They are however, autonomous in their movements throughout the school. The teachers stay in the classroom, eat lunch in the class with the girls- lunch is ordered and then brought to the classrooms- and it isn't until recess, held directly after lunch, that teachers might migrate slowly to the staff room. In fact, you sit in the staff room during this period for about 15 minutes before someone wanders in- whom you later find out is the foundation teacher as she asks you if you're the one observing the classes for "that evaluation thing" and then when you say that you `yourself, she says you "ought to have a look at the littlies" if your schedule allows. She says this with the confidence that even if your schedule doesn't allow for it- you somehow will. She's right of course- and you notice you instantly take to her. During this break, you also overhear the librarian discussing how she encouraged a student to be more independent with their research, and then as more teachers trickle in the little bags of pads on one of the tables are being cleared away by a girl in uniform and the physical education teacher who you saw putting them together earlier as you passed by on your way upstairs to check out the year four classrooms.

Next Class
Classroom 6ED Math's. There are 14 girls in all. I walk in at the end of the maths test girls, which are the girls are taking on the iPads- all the girls have iPads.

PYP attribute poster activity next. Girls gather in a semi-circle towards what you assume is the front of the classroom- though it's hard to discern. They begin to draw on paper and then finish on iPads. One does a poster on "independence" and talks about what it means for her. Other girls make suggestions on how to add to the poster. How we express ourselves is the central idea girls are working on. Another girl says "cooperation" and links her iPad to a screen to show class what she has been working on. This classroom is colorful.

This teacher is more of a leader than a facilitator- he gives instructions and then girls break up into groups to work on posters. Some girls work in groups of threes other girls work in groups of two to create the poster on attitude. Some girls are working with paper and some girls are working on iPads to create posters with the following themes: Communication, Enthusiasm, Tolerance, Empathy and Respect. The girls also use the "sketch" app to design posters on their iPads.

Other girls are helping each other to conduct research on the poster themes. Teacher claps for attention midway through this activity, says he wants to check on progress. He loads updates onto Google drive. You notice the girls are able to navigate working on iPads quite well. One girl says they learned in year four how to do this when you ask her.

You ask the teacher which of the 12 original attributes working with iPads aligns best with and he promptly answers, "Cooperative" and says "Using iPads engages the creative aspects of the PYP programme, and there is 'Collaboration' through iPad usage". The girls are still sharing their poster ideas with each other through Google docs.

From 12:45 -12:55pm, supervised eating in classes happens, and then onto lunch play from 12:55-1:30pm.

In staff room waiting for next observation... Artwork by kids lines the walls... School feels like a very artsy place...feels very much like a school for young kids. Playground outside ... all classes face the green turf.

Ten minutes later… The noise from the area outside the junior school is epic- shouting, singing, the sound of running, jumping, activity; girls dashing around - running up to the doors of the staff room that looks out on all this- one pulling faces, another waves, another glances in and then walks away- it's endless, this stream of girls in uniform. Some though seem to have lost their straw hats they wear in the morning.[8] You leave the staff room and wander around a bit. You pass choir practice and gymnastic practice. More Learner Profiles on the walls, the deeper you walk into the school. Here's the music office and then, the last classroom tucked away is the art room

From 1:30-2:15 is period 5, 2:15-3pm is period 6. And from 3-3:15pm is tutor time for years 3-6. Below are some final classroom/school observations made on 11/03/15:

In a Year 4 classroom: The class is focused on learning about the brain, and using iPads and the Keynote application to present their learning and their experience of dissecting a pigs' brain. The girls also cluster round you and tell you their favourite part of the brain and explain the different types of related intelligence. In another classroom, the girls are learning about Tikanga. The girls are making posters on Wharekai, Marae, and Hongi, and are working together in groups to research and learn more about these traditions.

Teaching and Teachers
Suzanne, the Head of Junior School at Diocesan came from a school in Remuera having previously been Principal of a school with a majority Pacific Island constituency. As noted earlier, the school had already decided to go with IB when Suzanne was appointed. She didn't know a great deal about the curriculum, though she came *knowing* that she would oversee the PYP, and was *drawn* by it. Once she did learn about it she realised that it took further what she was trying to achieve at her previous school and she instinctively liked it. What was also attractive was that girls leaving Diocesan Junior would go on to the IB Diploma Programme at the high levels of the same school.

At her previous school she had introduced inquiry-based learning as a discrete innovation. She formed an innovation group - a small group of teachers who became well-rehearsed through researching inquiry learning, visiting schools, discussions, who in turn informed and persuaded the rest of the staff. But Suzanne sees inquiry-based learning just as *"good teaching practice - it puts learning in the hands of the children"*. The shift is from the teacher as the knower to the teacher as *"the guide - but with a vision of where they're going"*. The teacher has to have that sense of *"what are the outcomes the children have to learn"*. She sees this can be challenging to some teachers who have to *"learn to let go"*. Teachers could feel that they're losing a certain amount of control - *"but then teaching shouldn't be about control, should it -"*.

---

[8] Not worn at lunch time.

In the hallways and between classes, teachers converse easily, though, you notice, formally, pleasant- though that could be due to the fact you are sitting in the middle of this private space. You miss the warmth and the inclusion you were witness to and felt, in the classrooms/space you just came from.

There also seems to be a lot going on at the school, trips, activities, tests, egg decorating competitions- of which some urgent organization is required. You see some teachers sharing lunch too. Lunch is hurried, not harried, but the atmosphere is quite unlike the calm and quiet you experienced on your first visit. You realise though, the PYP takes heaps of energy - to always have to think one step ahead and think along lines of, "how do I answer my student's question in a way that helps them arrive at methodology-created by them- that in turn will help them answer the question they just asked me?"

The teachers make a point to introduce you by your first name, they use it and the girls begin to use it. At no point do you feel disrespected, and neither do the teachers- but you find this a bit disconcerting- this familiarity.[9] And then as you reflect on this, you realize that you are just not used to automatically being included- and/or, you assumed that somehow you could sit outside the action of the PYP. But this evaluation is your own version of inquiry- similar to the girls, and you have learned that inquiry is inclusive, and its methodology helps to make familiar unfamiliar concepts, cultures and communities. The way these girls interact with you, call you over to their tables during your classroom visits is part of symmetrical and mutual learning and growth. It was just so subtle, that you didn't pick up on it until now. You also realize that this is the way the girls are risk-takers too- they include you, show you their unfinished work, ideas and concepts being fine tuned… you've entered a space and the action of each classroom en medias res- and the usage of a name invites you to take part in this community as an equal. In fact, the effect endures for the rest of the day- and it tells you something about the way you have learned. The name usage, the teacher sitting on the same level as the kids, the facilitation - though the teacher is clearly in control, the kids have an authority that almost outranks the teacher…. They seem to own their inquiry- the teachers provide possible pathways to understanding- but the student appears to be the leader.

Final Observations

Three teachers identified the defining marker of the PYP programme as the "second language requirement" and the fact that students at schools with PYP are essentially trilingual with the added Te Reo Maori language element underscoring their classes (a key component of the NZC as well). This focus on languages is a distinctive marker of the PYP as an internationally-oriented curriculum.

Within the year levels, many lesson plans fed into each other, and "themes" or topics naturally flowed over because of the shared central idea, giving the impression of an "organic" flow. There were also several moments where teachers had to "think on their feet," not uncommon for a non-PYP classroom,

---

[9] Staff refer to each other by first name – but students use full, formal names. Apologies were later made for using my first name.

however this adjustment and adaptation had to include the student-inspired or directed inquiry.

A holistic approach to student-teacher relationships is evident at Dio, student-teacher relationships are personable, engaging and warm rapport is commonplace. The fact that teachers are able to grow and nurture genuine relationships with students within this atmosphere are significant and beg a deeper exploration of the relationship mechanisms.

This year the school faces a 5-year review and Suzanne quotes from parent data collected as part of that. The general thrust of parent comment is that they were greatly approving of the inquiry-based approach, which they were aware of from the reports of their children. Some comments suggested that parents knew too little about the curriculum, while acknowledging that it was their responsibility to find out more about it, and under a general expression of confidence at leaving it to the school's discretion.

In general, these comments, as Suzanne read them out, were expressions of confident parents - one, for example, saying that she paid the school to take responsibility and so felt no need to know too much. Does this speak of the benefits of the PYP being implemented in communities of the social elite - children on an inquiry-based curriculum coming from homes where knowledge is handled with self-confidence and where you might more easily acquire an inquiring mind? Suzanne reflects and then denies this. To the contrary:

"If children are brought up in a home that is inquiring and they're allowed to ask questions - if they're <u>not</u> brought up like that, surely it's our responsibility to expose them to that. Because if they don't experience it in the home and they come to a school where the teachers tell them what to do they're never experiencing the world. They're never experiencing what they're going out into - where they are entitled to find out things. My opinion would be that all children are entitled to that."

So why is it that IB is mostly taken up by high-decile schools? Suzanne thinks hard. It is, she suggests, that the curriculum is attractive to an aspirational class. There is an awareness that the IB is a successful launch-pad, not just to a university career, but to an international university career. One of the parents cited earlier had said just that. But Diocesan has a relatively high percentage of children from international families, and they are aware of the international currency of the curriculum. It is that expansive vision that makes the IB attractive.

As we conducted these school studies we became aware of a particular threat to the validity of our evaluation. It was difficult to observe PYP impartially. This is a seductive curriculum experience and it is difficult not to like it. In all popular innovations staff and students will attempt to co-opt evaluation, to see it in its most positive light. We characterized PYP people as true believers, and one of the characteristics of true belief is the not unreasonable demand to be understood in their own terms. So the phenomenon is not unusual, but the effect in the case of PYP is notable. PYP people want what they do to be liked and it is hard not to respond.

Students freely asked for our opinions on their projects, research tasks and involved us in their inquiry. Inquiry draws the observer in and it was difficult to maintain an anthropological presence in the face of such energetic people. It seems that all who walk into these schools become a resource, this evaluation was an opportunity for the students to show themselves in relation to the Learner Profile and to ask for feedback, fact checking and further data.

But this is not, in the end, a threat to evaluation validity. Our job as evaluators is to show the PYP innovation for its greatest promise and potential. We bring a critical eye, but always with the question in mind, 'what is the best that can be learned from these people taking risks on our behalf?'.

(2) Auckland Normal Intermediate (ANI)

Introduction
A bell sounds, and the noise in which you are already immersed increases. Kids are running and walking towards your general direction because both you and your escort, one of the Year 8 Deans Matt, have lingered for a moment outside the main office- where the visitors check in. Matt is greeting a female student- you assume she is one of his, and then you overhear Matt asking her if she would make sure you got to your next class. She agreed, and ran off. In any other school, you would have assumed she was a prefect but there's something about Auckland Normal Intermediate (ANI), an organic, fluid pace, that halts assumptions in their tracks.

Or maybe it's the fact ANI is an PYP school- and all bets are off. You've made this mistake before- on your first day actually- when you toured the school after observing a teachers' meeting: you were expecting order, neatness, structure, and yes it was all there, however, not in the form you expected these things to take.[10] You paused here in your train of thought- because you now realise this is also one of the impacts of the PYP programme: it pushes the kids to inquire- rather than assume, because questioning leads to learning, and learning leads to student agency, clarity and knowledge.

For you, ANI seems accessible because you only have to walk across the field, which separates the University of Auckland (UoA) Faculty of Education campus, to get to the school. You are always aware of ANI actually - you can see it from most of the UoA buildings. You can hear the kids when you go to the library and when you walk to the village to get lunch; sometimes you walk across the field and can

---

[10] Teachers were organised, they grouped themselves by topic and year, though the groups did not sit in the same way and at the same type of table. The activities were structured in that two teachers lead discussions and brainstorming sessions on how to include more elements and the language of PYP programming in daily class, but the discussions cut across groups.

see the kids playing during their lunch break.[11] *You see these kids in the morning too, walking through campus, and you have always marvelled at how they seem to ignore campus life; they're not ignorant of it, they're just clearly not intimidated either. Also, sometimes when you leave a bit later for lunch, you see these kids and a teacher or coach all playing rugby, running track or playing basketball together.*

Many of the kids describe living in close proximity to the school to you. Streams of kids clog the streets and roads surrounding both the campus of UoA and the school grounds of ANI. If you work in Mt. Eden, or pass through it either on foot or by car on the way to some place else, you will see kids in their blue uniforms going into several of the cafes with one or two of their parents, kids buying pastries or bread from one of the bakeries and kids also walking with what you think is a fluffy or a hot chocolate.

Around 700 kids aged 11-13 attend ANI and in 2012, ANI became accredited as an IB world school. The school statement provides some background for why its leadership chose the IB framework:

> Students gain a global view on the world
> Parallels the New Zealand Curriculum
> Provides our staff with world renowned Professional Development
> Combines the best global research and practice from around the world
> Provides innovative curriculum resources
> Is another quality control mechanism
> Emphasises global networking for teachers and students.[12]

At ANI the IB Learner Profile is displayed throughout common spaces such as the Information Centre (that also doubles as a library), at reception and in meeting rooms. The Information Centre plays host to numerous bookshelves and has an open space in the middle, tables with computers, tall tables, short tables positioned within it almost like an art studio. This centre has been curated with keen eyes. The Learner Profile aspects are up on one wall, these kids are challenged to be: "caring, reflective, communicators, open minded, balanced, principled, risk takers, inquirers, thinkers and knowledgeable." Over the course of the school observations, students often referred to these traits. The other wall has the words "ANI Inquiry Process," to the right, up above the book stacks, are black and white clocks representing the different time zones where IB partnership schools are and which represent ANI's connection to its international community.

The kids are surrounded by encouragement and take notice. They interact with the Learner Profile while learning and some have spoken of engaging with certain attributes in their home life. Terms, activities and the Learner Profile attributes of the PYP curriculum are also integrated into the décor of the classrooms. The

---

[11] During my time there, I explored the grounds, poked my head in and out of classrooms and into the different corners of the school- and somehow I could always hear the kids. ANI is not necessarily a loud place, it is however a space whose sound gives away the secret of its leadership… I use 'kids' quite often in my field notes and in my explanations and descriptions of the culture of ANI to my evaluation team because I associate the word and my understanding of the word "kid" with movement, fluidity, energy and sheer visibility- all of which the occupants of ANI have.

[12] http://ani.school.nz/learning/international-baccalaureate-i-b

posters stand as evidence of the student voice, presence and agency in their projects. In one classroom, there's a poster on *9/11 and another on menopause*.

Classrooms are full of colour, movement and a variety of curriculum resources such as smart televisions, Internet access, tablets, laptops, kids working on tablets and laptops. Posters, once again, line the walls, various aspects of the Learner Profile and the attributes up on the wall, pictures of kids, drawings done by kids, self-portraits, drawings to do with the theme and central idea they are working on in class. Pictures that have printed out from trips, and school activities, collages, colour and texture. When you walk into the specialist classrooms (art, science, music, textiles etc.) there is almost no break in the sheer amount of colour, what is covering the walls- the focus of each classroom can be determined only by its equipment.

The Principal

Jill left her previous Principal role 12 years ago. She realised early on that in the school she moved to, the curriculum was designed in "*in the best interests of the teacher"* whereas she wanted a curriculum for the interests of the child.

In the following quote Jill explains why she shares an open plan office with Shane and Lucy - her Deputies:

"You can't espouse that you want a school that's collaborative… if it doesn't happen at the top. So the office is shared, open and the DPs are part of the conversations that I have… with Ministry people, parents and agencies. They are part of the leadership learning, not tucked away in their own office with the door shut."

A 'Modern Leadership Environment', perhaps to match the Modern Learning Environment. People, she says are surprised when they see this arrangement, but Jill sees the school just responding to a different world. She conducted research before lighting on her approach to leadership, visited Vodafone, ASB and elsewhere, and there she observed new, flexible working practices, where employees do not have their own work space and the quality of the work station recognises that most of the time people are expected to be away from their desk engaged in action. Jill observed 'hot-desking' and like what she saw. People only allowed a desk for an hour at a time, for example. Jill sees this is liberating, people are 'freed up' from their desk and have to use space more collaboratively.

This also changes the way school leaders relate to kids - students can be seen wandering into the open leadership space constantly. One thing it does change, says Jill is that it takes away that idea that you go to the Principal's office for disciplinary reason. *"If you're off task you deal with it in the classroom, which is where it should be dealt with.. You come here for good things, you come here to join us for work."*

It works the other way about too. Jill will choose alternative workspaces. The other day she chose to sit in a classroom that was being used as a break-out room for class discussions, writing up that week's newsletter, overhearing the students talking. *"Eventually - I don't know - I might not even have this space - I might just*

work in hot-spots around the school in classrooms. Why wouldn't I? I'd have a much better handle on what's happening in the school."

Of course it's risky and it can be demanding, but what is essential is making her role more public so that people understand how she is working.

Teachers
Teachers receive regular professional development, and attend frequent planning meetings concerning aspects of the PYP IB curriculum.

At the time of our initial observations, the IB facilitators and main contacts were Daniel Robertson, a specialist teacher of science and Rachel Plank, a year 8 green team member. Rachel has since moved away. During a tour of the school, Shane Devery, one of the two Deputy Principals, remarked that the "IB was the catalyst that helped us integrate… learning in what used to be in silos" and that "IB gave us a common language" and Matt Aukett, one of the Year 8 Deans also described how teaching the students within the IB curriculum is "like having to facilitate 31 dissertations using one supervisor".

Teachers trust students to work by themselves; there is blocked time for students to do/work on their own inquiry, and for some items, students work on projects by themselves or in a group. The end of the year exhibition is different, as students must work in groups. Also, some students have their own iPads, while others use laptops. All teachers' interactions with students and the ways by which they connect them to learning materials are based on relationships or are part of building relationships.

Teachers are arriving by ones and twos. You realise everyone is dressed quite casually. Shane introduces you to certain people. Matt, Rachel, Daniel the "mad scientist." Rachel and Daniel have organised this meeting. They wander away and begin moving the tables, utilizing the whole room. They create little "stations" and place a large piece of paper on each one. You take a peek at these papers and they have questions on them. Questions like: "how do you use the library, multimedia and resources in your classroom?" and "How does one acknowledge responsible action within the school and community?" under each of the questions, there is a second line entitled "suggestions."

You look up and teachers are grouping themselves in threes and fours around each table as per the instructions Rachel and Daniel are calling out merrily. Shane is still beside you so you ask him what the teachers are doing, and he tells you that this meeting structure is fairly new and that the grouped teachers will move from question to question, provide examples and suggestions, and then move on to the next question. It's timed too. But you're too distracted by the notion of "musical chair teachers" to catch how much time is allotted, and by this time Shane is moving around the room interacting with colleagues.

Finally the room quiets, you get a few curious glances so you walk up beside Shane, he introduces you, you introduce yourself and say that today you're just here to observe, then you thank everyone and move away out of the hub bub. Daniel stands up; he was sitting at one of the tables with some teachers and describes what they are about to do. Talk-write-move to other table: repeat. And

then it begins! The hum and buzz of teachers discussing questions and participation is lively and you find this inviting. So rather than staying in a corner, you begin to walk around the room and listen in on the conversations.

You approach a group of young female teachers first. Long brown ponytail, dark brown bun, shoulder length blonde hair. They're welcoming, and dark brown bun tells you that even though she doesn't teach some of the subjects that their question pertains to, she likes to see everyone's answers and suggestions. You let them get on with it but this process intrigues you.

You wander to other groups, Shane catches up with you on your fourth and he begins describing how this meeting is about "focusing on interweaving inquiry into all the classes" and is "collaborative action planning." You ask him if this is a way for them to self-evaluate and he agrees enthusiastically and then adds that it's merely one of the ways.

During the last rotation, you wander over to Daniel's table as Rachel seems engrossed, and after the discussion winds down you ask Daniel what happens with all this information. He tells you that he and Rachel collect it, review it and feed it back to teachers in various ways. He then makes an announcement that the meeting is over. Some of the teachers bring their papers up to Daniel's table. Rachel comes over and begins telling you that this was recommended by the IB review, and Daniel adds that he and Rachel collate the information according to the IB review as well. He remarks that this is an "innovative way of improving IB practice." This staff feedback meeting took about 40 minutes.

The curriculum at ANI
Jill describes how the curriculum at ANI had previously depended too much upon the interests and preferences of the teacher, and this became something of a lottery for the student. She had heard about IB curriculum and became interested in it. The point of decision to adopt the PYP created *"a positive change where the school was moving towards collaboration, a new way of operating, openness and classrooms where people can all the time watch you teach…"* Jill explains. There was time when she would enter a classroom and the lesson would stop to allow the children to welcome the Principal, whereas now she walks into a classroom with no ceremony and like any other teacher.

The tipping point was the introduction of the new National Curriculum which presented an opportunity for innovation. Jill went to Singapore (IB Head Office) held discussions, was persuaded, returned to the school and immediately set to work to become accredited. The previous curriculum was still topic-based - focused on subject disciplines - and not sufficiently *"concept-based"* for the needs of her students and staff - also now committed to innovation. The new National Curriculum changed this and shifted to a conceptually-based curriculum, allowing for inquiry-based learning and created a new environment for school curriculum practice.

So why go with the PYP if the NZC met her needs? *"That's a good question!"* The answer was that Jill felt she needed a strong justificatory framework to sell a full-blown, inquiry-based curriculum to her staff - *"I needed to have done my homework"*. The IB provided this, made the curriculum shift more sellable. She

had been convinced, too, at how the PYP made the school distinctive - she had been told by an IB facilitator that when you walk in to an IB school you knew it immediately - from the behaviour of the students. *"He was right - absolutely right. They think differently, they approach things differently - they are better thinkers… they have learnt a framework of how to learn, and through their own interests… and you can do it in Decile 1 or you can do it in Decile 10 - it doesn't matter."*

Nor is she persuaded that children from economically better-off families make better IB students. If anything, she sees the IB as even better suited to low decile schools. An important factor, she feels, is the openness of the students to a new approach to learning that makes IB schools so special. But what about the constraints of parental expectation - parents traditionally wanting a more disciplined-based, instructional curriculum? Here, says Jill, the best advocates are the students themselves. ANI feeds into Auckland Grammar School and Epsom Girls School - two prestigious schools. But ANI graduates are well adjusted to the transition to a new school and its discipline. Students can handle the pressure better and are more self-assured - they also have well developed learning strategies. They are more self-aware. Data suggests that from entry tests to the first end-of-semester assessment ANI graduates have shown more academic growth than students from non-PYP schools.

Students
You and your colleague are waiting in the meeting room, to the left of the reception desk in the main building. It's the last period of the day and you're expecting six students to show up and answer your questions about what life and the PYP programme are like at ANI.

The kids trickle in. Three boys and two girls are early. One girl, realising that you won't start until you have the sixth student, stands up and offers to go look for the last girl, but oh, there's no need because she arrives. You're already settling in before you realise the students gathered to this room without any teacher participation. These kids are about 12 years old, and have organised themselves with the precision and confidence of adults.

You begin by discussing what the PYP programme means to them as well as their experience of it and some comments are made about how they are striving to be the "perfect learner," a type of student identity that aligns with the PYP Learner Profile attributes, and after a brief pause you begin to discuss how they went about choosing to attend ANI.

Researcher: *so did you choose the school or your parents?*

Participant 3M: *it was a mix of both… most of us probably had some choices, so we had the private school or we had the public schools*

Participant 1f: *for me I know my parents sorted out a few schools but then with those schools I could pretty much choose one I liked.*

Participant 2M: *I always wanted to come here but since we're out of zone... but once my brother got in I could come here-*

Researcher: *why?*

Participant 3M: *my brother and sister came here and they said it's like a really good experience, you learn a lot but you learn in different ways. It's like; the school I went to didn't have IB. It was brand new to me and it helped me take my learning to a new level-*

Participant 1F: *…sorry, so this a new way to learn, so instead of doing maths and readings, you're doing maths inquiry … everything is linked so it's not going from maths to reading, you're kind of doing-*

Participant 4M: *of course you're still learning-*

Participant 1F: *but you're kind of doing it in a linked way and sharing.*

They also mentioned choosing ANI based on some of their older siblings' experiences. One kid mentioned being attracted by the curriculum and called it *amazing* because the curriculum *offered a chance to help the community*. All agreed that they found *student voice and student agency* to be integral part of the PYP programme.

Participant 4M: *there's a lot based in the community and trying to make the world a better place… which I think is quite a big thing… when you asked before … I chose to come to ANI- I had a lot of other choices and I went to other open days, but when I looked at the curriculum, I thought the IB structure was amazing… and it would further my learning… and I think it has.*

Researcher: *what was amazing about it?*

Participant 4*M: the fact that we could help the community with nearly everything that we learn. Nearly every opportunity with our learning we take the next step to help the community. For example, there's a group within the school that was in charge of making a new park with Uni students, there's a park that just over there- Nicholson park-*

Participant 2M: *basically it's an unused space. The Auckland bowling club owned it and the problem is that they've got about 17 members of the club that are all old and the building is falling to bits so-*

Participant 4M: *we actually presented our plans to the Eden-Epsom board and they're still seeing whether we should use it or not.*

Participant 5F: *yeah and it's really good that there's a big student voice as well-*

Participant 1F: *student agency and student voice.*

Researcher: student agency and student voice?

Participant 2M: *student voice is something that happens and student agency is a process - that's why I like student voice… I might say to my teacher, 'this isn't*

working what can you do about it?' the teacher might do something about or she might not

Participant 4M: *they take it on board and think about it*

Participant 2M: *with student agency we actually work with teachers to ensure that something happens… this is my example- this would never occur… with student voice we might say we need more books for the library and the teachers might go and buy ones that might be completely useless, whereas with student agency, we might say we need books- well what kinds of books? What kids might support your inquiry? And then we'd go and literally select the books and then we might have a conversation about budget…you know what I mean?*

Researcher*: right*

Participant 4M: *instead of treating us like children, they treat us as young adults, which is quite nice… it helps us move into the real world when we get older.*

The kids got louder as the discussion went on and commented that they witnessed their ANI peers embracing the opportunities that the PYP programme provided them with during their research tasks. One commented on the difference from her research experience in her previous school noting that her experience in her old school *was of a more prescribed nature* and that students had to focus on the same topic yet, *With inquiry you can research anything that relates to the central idea… and there's a lot of independence. You can choose when you do it…you can go off to the school and there's lots of opportunities to do other things.* Others agreed that they liked the breadth and scope within their inquiry and *on the presenting day, you learn a whole bunch of different topics not just the one topic that you researched*.

"We might have an inquiry topic, for example my topic is currently alternative energy and why it is the future…we are learning how to write an exposition and basically we write the exposition on our inquiry and what that does is it means that we are actually engaging with inquiry and without even knowing it sometimes we are learning a different style of writing within the inquiry." Another student added that within the process they may also learn a different style of reading as well.

They described their experience of *Maths Inquiry* mentioning that they might do an activity such as creating a survey and then learn how to graph the results. Another student described how her class was split into two *Maths Communities*, one that works with the teacher and one that is independent. All might work on a simple sheet of word problems, which help the students to unpack and record their problem-solving strategies. They have to come up with as many strategies as they can, and then share them. They were clear in expressing that the point of this activity was to come up with and share the different strategies-not necessarily to solve the problems.

They compared their previous primary schools' *independence experience* as different from their PYP experiences at ANI, citing examples of how some students might be slower or faster workers whereas their primary school teachers

were focused more on getting *everyone to the same level,* not necessarily working with the individual students to help them achieve their personal best.

Participant 5F*: independence is what's cool, in that if you can easily try… often at primary school, you're kind of given all the answers and you kind of go oh- but here you can really push yourself as hard as you want…*

Participant 4M: *in primary school you would have your particular groups and you'd only be able to do that, even if you found it super easy the teacher would be like-*

Participant 1F*: we just want to get you to this level and they don't really care… [Overlapping voices]… they'd be like we just want everyone to get to this and maintain it.*

They're encouraged to *compete* with their personal best mark and similar to how an athlete would be pushed to beat their best time, they're pushed to the same extent. Several of them were outspoken about how teachers pushed them to find their personal best and then also pushed them to *take it a step further.* When asked what "taking things a step further" meant, one boy was clear about how *My teacher always talks about taking it a step further… taking the extra step to get it just above the mark…in inquiry… if you have a few days to go and you are pleased with your work, and it's a really good piece- it may be the best in the class, but you could still take it that step further*. Another student added that it's *like sports… if you can swim the 25-meter in 16 seconds it doesn't matter if you're the fastest… you need to improve yourself.* Another boy concluded, *you could always take it a step further… at ANI you have that opportunity*.

One student remarked *teachers are always teaching students to their own ability,* and another mentioned how coaching was helping students learn at their own ability or pace (coaching was recently introduced to the school). He described a situation where two students whose learning strengths and weaknesses complemented each other were matched in order to help each other improve. According to him, sometimes the teachers match the students and sometimes the students *independently work together to solve the problem*.

They mentioned how teachers worked with them individually to help them understand their strengths and weakness and work through their tests. They explained that when teachers mark tests their next learning steps are then planned and are data driven. They continued to discuss the culture of *teaching students to their own ability* at ANI, going on to describe how some teachers unfamiliar with PYP groups students in classrooms, and how some teachers might have to work within *extremes*—students working and learning *above average* (The National Standard), students learning *at average,* (The National Standard), and students learning and working *below average* (The National Standard). Some of the students acknowledged how this reflected society in that *not everybody is able to achieve at the same level* and in the same way and that *the world needs people to collect the rubbish every Tuesday, and we need supermarket checkout operators, we need politicians, we need bankers, we need accountants- we need a whole range of people… people are going to be at different levels through life…. what we're saying is that IB caters for that*.

The students also agreed that IB respects learning at different abilities, though students recognise that there will always *be the smartest kids in the class* alongside students with *legitimate* reasons for why they might not be not learning at the same level.

They were clear on how ANI was different from other schools where learning was ranked and one mentioned how that might make other students *feel bad* and how they *couldn't imagine how self-damaging that would be for some people being ranked at P was,* somewhat contradicting their previous point.

Furthermore, *there is competitiveness inside the school but what it is is pair by pair…how we rank the classes is by like-minded students. So they put good mathematicians in one class, good writers, good readers…there's competition within the classrooms so they try to be the best because there's other people in there…* Another boy, *that's just human nature*, and one boy said on how this *gives them motivation.* They went on to note *that at other schools they just rank them… if you are in P, you are the worst in P…* Another student commented that he was *fine with this structure* and the competitiveness, and added *if (he) was in P, that would motivate (me) to get better,* his friend added that the two systems *are different in their own good ways*.

As the discussion drew to a close, one student commented that ANI was a place where everyone has *their own development*, and at another school, *it's always ranked and you want to move up a class*. Concluding that with the IB system, *…you still might not get the best of marks, but you understand how much you have improved and how that is a big step compared to the people that are actually at the top that are doing really well, but they aren't improving in as big of a leap*.

Teachers and Students
Overall, you sat in on eight classes at ANI, two of which you were able to witness because of the structural, open plan layout of the Modern Learning Environment. Teachers were in control, or rather at the centre of classroom activities but did not exhibit overt signs of authority, rather, they provoked, encouraged and breathed life into classroom discussions utilizing diverse methods that either adopted or shared a leadership or point person role with the students. From worksheet prompts, questions, idea mapping and showing video clips from YouTube, teachers found ways to relate both through print and technologically savvy ways with their students.

During one morning class (Room 2), a few male students remarked how they thought it was "alright" that they could do some research for their assignment, in another class, another group of boys used their mini tablets to conduct research into the topic and central idea of, "our lives are organized by human made systems." In this class, the teacher Nicole asked kids to think about *what human made systems are*, kids responded by giving examples of: *laws, treaties and how treaties have impacted people, governments, and the education, health and justice systems*. After these ideas were identified and written on the board, located off to one side of the classroom, Nicole then asked the kids to work on honing these "big ideas" down to questions for inquiry. Nicole also explained the difference between open and closed questions, asking the kids to keep this in

mind as they came up with sub questions and other questions that might link to their central research idea. Kids went on to suggest these sub questions*: how did Hitler come to power? How do different government systems elect leaders? how do governments have an impact on the military?, and what was the impact of the Treaty of Waitangi on New Zealand?*

In response, Nicole begins to draw a spider-like web map on the board. There's a lull in the conversation, kids focus on Nicole- and you notice that they are either sitting at the low tables or on the floor in order to be close to the board-a smart board which looks like a big television screen.

Nicole is addressing the kids again, asking them to think about responsibility as they continue to form questions in their inquiry. You have noticed, over your time in the school that responsibility is a key word, quite frequently used by teachers to guide the kids through activities of inquiry and idea mapping. However, responsibility seems to be used synonymously with a type of unspoken "moral or ethical consciousness" as kids are put in intellectual positions from which they are encouraged to "think of solutions to problems like pollution and/or environmental issues, usage of space." One girl, in another class was even working on a project to invent a juice with less sugar to combat diseases like diabetes.

Nicole has asked the kids to talk to each other about key concepts in their inquiry, and is also in the process of handing out a task that will help the kids to "put ideas down and write umbrella questions and subsidiary questions and how they link to the central idea and key concepts," and wants them to sort their ideas under the headings of "function" and "responsibility". The kids have sorted themselves into groups, and you move to listen in on the one next to you- they are trying to figure out how to sort ideas into the columns of "function" and "responsibility" on the worksheet-they seem at a loss. Nicole gives an example of how "laws around going to war fall under 'function', and 'how did the Treaty of Versailles impact the world?' fits under 'responsibility'". The groups you are sandwiched between both seem to be struggling through this exercise, and have not asked Nicole for any help yet. One boy is on his mini tablet, and you crane your neck and glimpse a Wikipedia page about North Korea and Kim Jung Il- this boy looks up and sees you looking and tells you that he's trying to figure out 'why the North Korean leader rose to power.' Nicole approaches your table, sits down and after looking over the groups' worksheets, tells you that this is the first questioning activity of the year and she wants them to "focus on narrowing their ideas down as they keep the key concepts and central idea in their head." She turns to another group. She's good at sensing need and building their confidence- always encouraging them to come up with their own questions. The atmosphere and buzz of conversation intensifies around you, and you begin to feel like a bit of an oddity or distraction, as you have no worksheet.

You decided to move on to the next room where you can see Gina and her group of students gathered around a large television screen with worksheets.

It looks as if she's taking a similar approach to unpacking the central idea. Gina is using a different worksheet and a chart to help the kids (about 20) to organize: what they know, what they want to know, how they will find out and what they have learnt, in order to broach the central idea. The kids are writing their answers

down in journals, and raising their hands every once in awhile to contribute their thoughts on a specific point. Some kids are also pasting their finished worksheets into their journals. You realize that Gina is getting them to go through the steps of inquiry by asking the kids to process their knowledge in order to form questions for their inquiry; this activity will gradually help them focus on the aspect of the central idea they want to research. You look around; posters crowd the walls, what's called an "active classroom projector" by one of the students, (what you've been referring to as a 'large television' in your notes- you've seen one in all the Modern Learning Environments here). There are also kids working in pairs in the small independent study rooms with glass windows and doors- Gina is calling students back to the main group to go over the activity. She's asking the kids to discuss their prior knowledge about the central idea and/or ideas of subtopics they've been coming up with while you were observing Nicole's class, if any. Gina mentions to you later that she has the kids focus on their prior knowledge because it helps them to establish confidence in the knowledge they already have. Gina is giving examples of types of questions that can be used in inquiry, questions like: what might the similarities and differences be between two different types of governments? She then begins to push the kids to narrow down their questions and also pushes them to widen the questions if they want to create their questions based on their prior knowledge. You yourself are dizzied by these choices, but this class now erupts into a flurry of activity and you seize the chance and slip away.

On your way out, you stopped to take down the notes on a "Poster of the Inquiry Process" in Gina's classroom: searching, planning, questioning, engaging, action, communication, understanding, connecting.

Both Nicole and Gina positioned themselves as guides in the students' journey through inquiry; they also functioned as "anchors" at certain points, when the kids seemed to struggle. Nicole and Gina pushed the kids to be curious, to harness and focus their curiosity and to "do something" with their curiosity. There was talk from both of them to 'focus it (curiosity) and be responsible with it, relate it back to the unit of inquiry, and how IB was about harnessing curiosity and imagination.'

A Day at ANI
At ANI, classrooms are well resourced. The modern learning environments incorporate smart boards, large televisions and projectors that all seem to sync with the kids' laptops and or personal iPads. Also, both the kids and teachers are able to access the Internet, which is utilized in many ways. Teachers stream educational videos from the Internet and use news clips to inspire students to think about how they interact with their environment differently. Students also might discuss how to contextualize their lives using sensitivity and awareness in order to cultivate a global consciousness.

Block One, 9.00am and it's a crisp, cold and windy day as you make your way across the field between the Faculty of Education and ANI. You glance to your left and you see three barefoot boys in the dark blue ANI uniform running towards the white buildings you guess are house classrooms. You know from the schedule Shane sent you earlier in the week that these boys are 15 minutes late.

Matt greets you at reception, and briskly walks you over to Elle's room, 21. Elle's room is positioned at the very back of the campus, and a riot of colour greets you

in the form of kids' coats and jumpers hanging beneath the windows of the white buildings. He jokingly calls this section of the school the "ghetto" citing the fact that the classrooms on this end have not yet been converted into modern learning environments.

Matt leads you past four buildings before you arrive at Elle's classroom. Around 20 kids are already inside, chatting and gathered at the front of the room with Elle. Some are sitting on the floor and some are sitting on chairs. If you didn't know what Elle looked like, it would be difficult for you to pick her out as she's sitting with them. Matt nods at her, and then leaves and you notice a low stool positioned near a desktop computer towards the back of the room so you decide to settle yourself there.

A blonde girl is reading out morning notices from a small iPad. And you remember that you've been told on a previous visit that Year 8's are working on a "sharing the planet" theme.

After the blonde girl finishes reading the notices, she hands the iPad to Elle, who places it on the low table with another desktop. To the right of the desktop computer, a projection screen has been drawn down. Elle begins to discuss her plans for the class, and mentions that she will be showing some clips from sources she found online. She also tells kids to take notes during the clip showings and instructs them to think about their 'own lines of inquiry.'

Elle has some kids pass out worksheets, and then tells the class to find a place where they can see the screen.

The kids are arranging themselves noisily. The projection screen now has a paused clip on "the brain scoop" set up. Kids seem comfortable. You notice it's a multicultural class made up of an Asian, (Sri Lankan, Indian, Chinese), Caucasian and Maori/Pasifika blend.

Elle is encouraging students again to pursue their lines of inquiry on the "journey to the end of the world" (you assume this is part one of the "the brain scoop" series of clips), this clip being about a journey in the rainforests in Peru and the Amazon. The kids seem into it and are laughing especially when scientists talk about their experiences with diarrhoea. The dialogue is punchy. And one scientist mentions his fear of "penis fish" before going on to discuss the results of their inquiry.

You get up silently when you sense the kids' absolute engagement with the inquiry material because several posters have caught your eyes that have been roaming around the room:

Room 21,"Where we are in place in place and time." More posters, "How the world works", "How we organize ourselves", "Who we are." There's a Mandarin poster with vocabulary and a Te Reo poster with vocabulary.

There's more. Under the heading, "Room 21 essential agreements", Elle has posted *the following agreements: "integrity is being respectful of other people and thinking about ways you act" and "doing work but at the same time having*

enough play time is being balanced" and "you expand your knowledge when you experiment with your creativity because creating is inventing".

Elle passes the clip and asks "what is so important about discovery and what is so important about redefining the edges?" referring to a phrase from the clip. Kids engage immediately with her and tell her what they're writing down on their worksheets.

She starts another clip on A.R. Wallace, the class quiets down.

Interlude: You are starting to get the sense that the kids are meant to be inspired by other people's inquiry and adapt other's work/research to their own line of inquiry. This might fit in with the theme of "sharing our planet." Everything fits together including the very cyclical non-linear learning. The curriculum is pieced together using relevant stories from history or other enquirers- the kids relate/teachers facilitate the relationship- then kids adapt to their own inquiry- project-reflection-repeat.

Elle pauses the clip and starts asking, "what does ethics mean?" Using the example of Darwin and Wallace, she refers to the theme of "sharing the planet" and asks, "How does natural selection relate to sharing the planet and what are the implications?" Kids answer that "the survival of eco systems are relevant", in fact, some kids are looking at deforestation as a line of inquiry. One kid mentions how the world is "out of balance."

The next clip is on how biodiversity is affected globally.... Some kids are doing "oceans" as their line of inquiry. Elle pauses the clip and tells them "this clip is the most relevant." The clip discusses global warming and ocean-related issues. You think Elle intervenes in order to make sure the kids recognise this as relevant information.

Elle stops the clip and plays another one on technology and sonar.

Elle pauses the clip on whales' sonar and leaves it up on the screen and begins to direct student on their own research. She says for students to "think about their own lines of inquiry" and says that she will "email links to clips for students who need them for their own lines of inquiry." So far, there has been no discussion of the nature of evidence. The pedagogical intent here seems to oscillate between getting the students to take control of their inquiry and provoking it.

Students are now told that the remaining time is for them to develop their own questions for inquiry. The blonde girl turns the light on, the class gets noisy, and students run to computers. One student pulls the blinds up. The final activity starts, and students break off into groups.

You look at your schedule and realize you have to move on. You thank Elle and ask her where room 4 is and she asks a student to escort you. It's the blonde girl that was reading the announcements. You notice that she has an ANI jacket on. She's shy but friendly, leads you to class 4. You're a couple minutes early so you wait outside.

Next Class
Global responsibility is emphasized in classroom discussions. Students and teachers discuss the harmful impacts on the environment from such things as pollution generated from cars. Students are also able to place themselves at the centre of issues and current events such as the rising costs of petrol and oil, the housing market boom in Auckland and urbanisation. Students are encouraged to think about what such things might mean and how to mitigate the impacts in their own families, communities and country.

Several students have spoken both to you and to teachers at ANI of possessing an acute environmental consciousness and their efforts to recycle. These students also speak to their family about ways to engage in 'saving the planet' and contribute positively to society. The trend of conversation about the environment seems to revolve around their central idea for both year sevens and year eights, who are able to articulate this quite well, independent of teacher coaching.

You walk in the double doors to Ben's class and glance to the left where you can see a large group of students seated at tables and listening to a woman speak. You're disoriented and think that maybe Ben's class is next, so you begin to walk towards the students but then you hear a voice at your elbow say," hey, over here!" You turn, and it's Ben, (you assume) and only then do you notice a whole other classroom - bright, high ceiling, white board, and tables of different sizes. You realize this is a "modern learning environment," - two classrooms have been connected.

Ben's class is housed in rectangular building, open, his class is number four on the left and class five is on the right. It's noisy, you can hear speaking from both classes. You can see the students. At the back of Ben's class are three rooms (the breakout rooms), with round tables where students can go and shut doors. The doors are made of glass with the IB Learner Profile covering each door. This classroom has tall and short tables, comfy ottomans and lounge chairs. It's less colourful than the first room. There are posters, and the IB Learner Profile is also on the wall alongside kids' drawings... There's also a "War - what is it good for?" wall with student projects posted underneath in line with that heading... Students' photo journals are posted on the walls. Ben later tells you that during class time there students are allowed to work on their projects/lines of inquiry in groups or individually.

Ben explains to you that his students are just wrapping up their inquiry and that he's going to take them through a lesson on "connecting research to inquiry," and how to link basic questions to facts to an eventual report.

Ben turns to the students and tells them to pack up laptops, (the students are scattered throughout the room, 30, more boys than girls, (multicultural) and as they do this he explains to you that he is going to do some "hot maps" with students.

The kids are all now gathered, sitting, on the floor in front of the big white board, though six boys have decided to sit at some of the low tables. All students have a notebook out, and a pen or pencil. One even has an iPad. Ben goes to the whiteboard, and tells the students that he has chosen the line of inquiry, "why

solar energy is great for the future" as an example of how to explain/model to kids how they can move from connecting research to inquiry.

Ben is now trying to nudge students towards what he calls a 'higher inquiry', which means that he is trying to get the students to construct a narrative with their research process and research. He is also telling students to think about the facts that they collect and ask themselves if the facts are relevant to their inquiry. Then he says 'and ask yourself if your facts are interesting or not.'

Ben tells the students, before they split up and discuss the facts they've collected (in a previous lesson you assume); he wants to model this "fact activity." He asks one student for a fact, one of the boys sitting at a low round table reads out a fact from his notebook, '27% of worlds' reefs are depleting due to human activity.' Ben asks the class if the fact is interesting, and after some noise, the class agrees that it is not. Ben then begins to discuss some general techniques on how to make facts interesting (comparisons, catchy introductions, making facts relatable to how "we live life"), and after getting the class to agree that this fact is relevant. A student then says 'they need to link and compare the fact to make it interesting.'

Ben is mapping now... Showing students examples of how to change perspective, make connections, compare information, and make facts interesting. He gives instructions for students to find partners, and students hurry to do so.

Ben shows trust that students will do what they are told.

Ben gives kids ten minutes... Then calls them back into a larger group... He asks one student group to give a fact, one boy reads out from his notebook, "Germany wants to stop fracking". Ben asks how student can make this fact interesting, and then asks students how they can connect this fact to New Zealand. When the silence stretches, Ben tells the class "they're doing it in Taranaki". The class starts talking excitedly.

Ben asks for another idea, it's silent for a beat, and then he begins to map the main idea of "solar". As he maps this idea, you realize he is trying to model, by talking through the process, how to differentiate between facts/information order to place them into relevant and non-relevant categories.

After he's finished, Ben calls two of the boys to the front of the class, has them stand in front of the whiteboard, tells them to pick up the pens and speak up as it's their turn to model, with the help from the rest of the class, this "hot mapping".

The other students begin to give facts about solar panels, as Ben guides the activity. He interjects every now and then, asking students probing questions about solar power... Modelling the inquiry gets students thinking about how solar power affects families economically...another fact on oil is given, "1.3 trillion barrels of oil is being consumed"... Students want to know what "one trillion" is... they look up how many zeros in one trillion…students write out number on board... Ben interjects asking students how to they are going to put this number into perspective and then asks how will students change peoples' perspectives on oil usage…students begin to list "relevant facts"…"the world uses 89 billion barrels of oil a day"…

Remember, we are 'sharing our planet'.... Ben asks kids how to solve the "problem of oil consumption," but before they can answer, he gives homework: 'have a conversation with mum and dad or whoever is at home about car-less days.' (Car less days is when students find other means to get to school). Then he tells the kids he will have a conversation with them and show a clip on putting oil consumption into perspective the following lesson.

The bell rings for morning tea. As you follow Ben from the class, you happen to look up and that's when you notice that the clock's numbers have all been covered in fractions/ math problems that represent the correct number.

Block 2
11.00am. Daniel, the science specialist teacher. Daniel's classroom is shared with the arts classroom located at other end. The room is long, open, wood panelling, with a computer lab in the middle separated on either side by glass walls. Ten tall science tables fill his side, and he has the IB Learner Profile posted at the front of his class.

"Sharing the planet" is the theme this class is following. With sub-themes/central ideas: "The responsibility of managing the balance between the human and natural world" to "survival of ecosystems" to "species adapt to the changing environment" to "stewardship of our land is crucial to survival."

Daniel informs you, as his class assembles outside his door, that he and the rest of the specialist teachers are housed in this wing. Their rooms are all similar; the music room even has a small recording studio, a piano, and a station where students can listen to samples of different types of instruments playing.

The class enters with their teacher, (this is one of the few times kids and their teacher leave their homeroom, the other time is for physical education and language teachers visit the homerooms.)

The class enters, kids are excited, some stick their noses in the terrarium on one of the tables, others say hi to Daniel, and others draw chairs up in front of a big projection screen set up.

Once the class has settled down, Daniel asks the students about a debate they had yesterday on 'bringing back extinct animals' and then asks the kids to think about the question... 'Should they bring the Moa back?' A small discussion breaks out around the merits of this, and some consequences and Daniel uses this chance to load a picture of his screen saver on to the projector. No real conclusive comments are made on the debate, and you get the feeling that's it's an ongoing discussion.

Daniel has students guess as to what the picture (it looks like some sort of mini-spiky deep sea creature) might be of, and when no one is able to guess correctly he tells them its pollen. He then challenges students to think about adaptation...'why does the microcosmic pollen look like an urchin' and a student answers, 'in order to hold on.'

Using the BBC news website to spur students knowledge, Daniel plays a clip on Japan's levitating train... after the video, he asks 'which line of inquiry would you put this into?' and then asks them to consider 'how it would relate to New Zealand'. You think he's trying to get the students to think about transportation differently and commuting differently, as he then starts calculating the distances between Hamilton, Wellington and Auckland and what the commuting time would be like if New Zealand had the train from Japan.

Daniel moves on to another clip about a just-invented hover board and asks students 'how could this be useful in the future?' and if 'it could it be a useful form of transport?' He also asks students to think about what it (society) will be like 100 years from now…

He goes to the NASA website and brings up a webpage on global warming and a post on climate change... Daniel also tells students where to look for more information on both topics before he begins clicking through several images of "change" (rivers that have dried up, reclaimed land," and "melting ice.")

Students seem enthralled by these examples and also seem excited- some of them are even fidgeting and you get the impression that they are ready to begin whatever activity is coming next.

After showing students these examples, he asks them where they are up to in inquiry (as they have two more weeks left of this cycle) the students tell him they are at the 'making connections' stage...students are then told to break off into their groups and to do more research on the computers.

After the students have broken off into their groups, Daniel explains to you that the assement rubric he uses for most of his projects focuses on the usage of difficult language and the usage of quantitative language. He tells you that students are encouraged to 'really engage with the process of learning and then present their projects of inquiry back to class.' Inquiries usually last around 6 weeks.

Students have brought out laptops and some are borrowing lights as part of a solar cars project. All are working in their small groups as Daniel and their homeroom teacher go between groups and help to shape the inquiry.

You slip away, and the sounds of a busy class follow you down the hall and out of the building as you head towards Holly's Room.

Next Class
At ANI the inquiry has an organic feel and flow, one teacher described it as "holistic, and structured in an unstructured way," as classroom activities are either teacher facilitated or student-lead.

Housed in another modern learning environment, Holly's class, room 16 (it also connects to Matt's class, which seems to be reading and writing quietly on the other side of the room) is in the midst of project work as you enter. It seems like there are around 16 kids in Holly's class, it's hard to tell because of the fact that

you can clearly see and hear Matt and his students. It looks like this space used to be two large, separate classrooms, and now a wall has simply gone missing.

There's also a "Hollywood" sign in Holly's room... she greets you and quickly explains that her class is the one that has decided to create artistic projects.[13] She points out to you one student doing a project on ecosystems that is creating a t-shirt stencil for her t-shirt line, and another student whose line of inquiry is deforestation ...Holly explains to you, and you both wander through the room (a mix of high and low tables, and a computer station), that some of the students are weaving literacy and numeracy together.

A student stops Holly to ask her a question, and you wander over to a tall table at the front of the room occupied by three girls with brown hair who are all painting cardboard shapes. You ask the standing girl what she's working on, and she explains to you her concept of an underwater city that she came up with in order to solve over-population. She also informs you that she has decided to move half the earth's population underwater, and shows you the city-planning map she has drawn in her notebook. There's a school, a power plant (located above water), a jail and she's got a list of punishments for people who disobey the city's rules, one of the punishments being drowning.

You ask the girl sitting next to the underwater city what she is working on and she explains to you that she's constructing a model of apartments with built in plugs for electric cars. The other girl is working on a model of a city she has re-designed with green spaces.

As you move to a better vantage point of the class, you realize that all of these students are working independently with little to no direction given by Holly. You also notice that even though this is the end of the term, and students are getting ready to move onto high school, they still seem painstakingly focused on their work. Holly acknowledges this phenomenon as well.

You eventually notice the time, and move over to Matt's side of the room where he shows you an example of a lesson plan (the stack of pages is huge!) and you also discuss what the cost of the IB programme is to ANI (as you've notice the number of laptops, projectors, large television screens and the fact that every room is connected to the net and many have Wi-Fi). Matt explains to you a "very supportive Board" and the fact that the school is "high decile " results in the school being "financially secure."

Teacher and Student Interaction

When talking to teachers, kids are respectful, but direct. They also speak with energy and excitement, unchecked as far as I witnessed, by the teachers. The kids also appear to speak from a place of empowerment, and they are confident that the teacher has time to listen to their comments. Students engage with teachers to give opinions on the lesson plan, what they had read or saw on television the previous evening, asking teachers how their weekend was, what their plans with their partner that night were, and offering critiques on movies like "The

---

[13] Many other classes create artistic projects as well.

Interview" they had both seen and how this related to their mutual fascination with culture and politics in North Korea.

It's towards the end of the day. You're in Holly's class sitting towards the back of her class but close to Matt's class- or the slight border between the two- though as this is a modern learning environment, this huge space is of course open-plan populated by the tables, chairs and mini-couches of all sizes- with the study rooms off to the side. You've been looking at the kids' projects, admiring how they have translated their ideas into these tangible examples of their interpretations of a central idea. The student you met earlier ------ walks by holding what look to you like a shield, and Holly calls out to him, "hey what are you doing with that turtle shell?" Turtle shell? The student ----- comes into Holly's class and says he's helping another teacher set up for her child's birthday and Holly laughs and says he's being very nice. The student then asks her casually if she caught the news last night because the Prime Minister was on, and Holly laughs again and said she didn't and asks the student what he was saying but the student then makes a joke about Holly not being a supporter of John Key. Holly is non-committal. And you're struck by this exchange because you found it quite… shocking for a student and a teacher- and think about how power relations usually look like in a traditional classroom… you realise you are conditioned to expect certain behaviours from students and teachers- and if you weren't witnessing this exchange, you would have mistaken the conversation between this young adult and his teacher as a conversation between two friends grabbing dinner… because it was so nonchalant, but each party was comfortable and confident enough to express themselves within the boundaries of a respectful conversation from different political stances.

Conclusion

At ANI, several staff members described the PYP programme and the impact of IB as a "catalyst" that changed the way the students engaged with the curriculum and staff and students discuss how *inquiry happens all the time.* The IB Learner Profile and its attributes also have a clear impact on how the kids engage with and synthesize their academic identity as well as their individual ones. The Learner Profile seems to resonate with the students; they see it as a tool they learn how to hone at ANI and also as a set of skills they might find useful later on in life.

At ANI, students were responsive to the calls to action or *provocations* in the form of video clips, experiments and narratives their teachers presented them with. Responsibility seemed to be the most evident aspect of the Learner Profile woven through the curriculum, used in conversations and also used as a prompt by some teachers during "inquiry" to stimulate their students to think about *their responsibility to their community, environment and family.* Most teachers use the school inquiry cycle to guide activities of inquiry and or/journals where the kids kept their work, wrote down any questions and facts and project plans. Teachers pushed kids to find answers to questions, *narrow their focus* and be cognizant of *why they are asking questions because inquiry must have a purpose and direction.* There might be some implicit ethical implications behind pushing the kids to be cognizant of interest. At ANI, there was also a sense that topics were not just pursued for the sake of interest- there always seemed to be purpose, in fact several teachers spoke of "purpose lead inquiry."

Another focus of the teachers seemed to be on pushing kids to action through the formation of questions- as a part of the culture of inquiry. Kids became caretakers or custodians in relationship to their community, country and the environment and most of their inquiry and projects were responses or solutions to local or global issues. Many of these kids seemed to genuinely believe in their *agency* and power to change things for the better. In the Year 8 focus group, they talked about choosing professions such as *lawyer, doctor or prime minister*. Independence was also an integral part of the student agency. This was exemplified in the way the students worked took initiative to work on their own or in small groups during inquiry. Also, during the focus group, students were clear on how ANI *prepares you for both high school and life* by giving the students the IB Leaner Profile to help them navigate tasks they need to complete. One student commented on how the IB programme prepared students for life and university in that it helped them negotiate their learning as well as different ways of learning, commenting that "*IB is teaching how to learn instead of just the answers*".

Understanding the school studies

The PYP emerges as something of a Christmas tree - it has something for everyone. Its general orientation is towards 'transdisciplinary knowledge', inquiry-based learning' and 'internationalisation'. It is framed in terms of stipulations - teachers *"will"* teach these things in this way; and yet what we see here is that the rule system is as enabling of diversity in practice as it is constraining in its content. The focus on internationalisation and *'intercultural understanding'* is framed in terms of global self-positioning, and yet the language and the requirement is interpreted by the teacher as local in its implications - in a New Zealand context 'intercultural' can be translated with ease into an inquiry into Maori/Pasifika/Pakeha cultural relations. Students are encouraged to be creative and critical in their inquiries, and yet not so much as to bring into question the social and political order. There is both a rigour and a decorum about this curriculum in action.

And yet we spoke to students with a honed sense of analysis and critique. They are trained in this, as the curriculum introduces them, not just to knowledge, but to *how knowledge is constructed*. Students are encouraged to think of knowledge, not only as what is imported to the classroom from 'elsewhere', but generated within the classroom. Learning itself is part of the classroom conversation. This is a more radical approach to knowledge than is suggested by the measured and decorous classroom interactions that take place. It follows the Stenhouse (1975) proposition that a curriculum that seeks to *induct* rather than *initiate* students into knowledge cultures sees intellectual independence as a key factor, and this makes learning outcomes unpredictable[14]. Initiation into knowledge cultures means training into the given order of things; induction means introducing the student to a "thinking system" as an active agent within it. It is when students are taught, not just knowledge but how it is constructed - the methodology of knowledge generation - that we shift to induction. This is what we are seeing in these observations.

---

[14] Of course, students may *choose* to pass exams and demonstrate compliance with prescribed knowledge, but this says little about what they have *actually* learned and committed themselves to.

Over the course of the evaluation, we observed teachers serving in the primary role of knowledge and learning facilitators and students participating in class work as knowledge generators as well as acting in leadership roles in the generation of knowledge. Teachers were constantly adapting their teaching methods and role and discussing this among themselves - all attest to what we might think of as 'discovery teaching'. The PYP professional development programme takes teachers so far along the path of inquiry-based teaching within the parameters of its curriculum specifications and workshops - thereafter, the teacher creates their own conditions for classroom inventions.

When we say 'teachers' what emerges in the school studies is that this implies collectivities of teachers. The principle of whole-school innovation is realized in these cases. It would be difficult to conceive of the kind of educational interactions generated in these two schools without the engagement of the whole school culture. We see the challenge in these accounts.

Normal classroom skills were of less use in PYP classrooms as traditional forms of authority, (teacher in authority versus teacher as an authority[15]) are taken away, kids making their own choices about what to believe or what not to believe. Diocesan presented a different case. There, interestingly, the students are getting two different messages through their participation in religious and traditionally authoritative moral instruction. During the chapel service, we observed a reverend speaking in authority, yet in the classrooms there was a shift of authority which embodied more of the student-as-knowledge-generator PYP role.

Nonetheless, in classrooms, students authentically shared control of much of the process of knowledge generation - under varying degrees of direction from teachers. In fact, we saw teachers moving fluidly between facilitative, coaching and instructional roles. The PYP strikes a balance between subjective and objective knowledge, expecting students to discover certain things - for example, within a tight moral framework where they are expected to show concerns for the planet, the vulnerable, community and so on.

Much attention was being paid to developing students to be "at their personal best" and "take it a step further," as students expressed it to us. Subjectivism, in fact, sometimes seemed to border on the individualistic – for example, where students talked to us about excelling and reaching for elite careers. But these messages were balanced by what we observed to be large quantities of group work and shared inquiry. We observed value being placed on student agency. Kids also participated in curriculum planning meetings, and there were several student representatives at important end-of-the-year meetings.

There was a tendency for kids to work with themselves or in groups before asking for help. Over all students, however, seemed to be in control of their knowledge base which was evidenced through their research and attention to data collection during units of inquiry; knowledge is being developed rather than simply reproduced. We rarely saw students resorting to teachers to solve their group

---

[15] Stenhouse (1975). Stenhouse argued that teachers using management authority in the classroom threatened to distort knowledge relationships by persuading students to become 'cue-conscious' and to modify their actions in order to please the teacher.

conundrums - there was plenty of evidence of student autonomy. As we have seen, teachers were giving kids access to pedagogical levers by letting them define tasks and units of inquiry.

School study method

Acacia was the Principal Fieldworker and conducted the two school studies, supported occasionally by Saville who conducted two interviews and joined Acacia in one discussion group with students. Acacia's data gathering was conducted over two semesters which helped to bolster her acceptance and foster familiarity with the teachers. She entered classrooms for lesson observations, attended teacher planning meetings, observed student exhibitions, 'hung out' with students and alone in the schools and conducted interviews with teachers and students. These are 'slice of life' accounts intended to give a sense of both flavor and substance of the PYP in action. Central to these observations was the sometimes intensive observation of interactions – teachers-with-teachers in meetings and teachers-with-students in classrooms. The PYP is an interactive curriculum – what we characterize here as a 'conversational curriculum' - and in the search for quality we have to look at how people relate to each other in knowledge.

Case study is an intimate methodology and relies upon close – albeit fleeting – relationships. At certain moments during her time at the schools, Acacia felt as if staff and students were "tuning her in" to certain PYP radio frequencies- and guiding her towards the stations they felt were the most interesting or important. Acacia relied on her school contacts, Amy and Shane, to guide her school visits, plan her observation schedules and introduce her to the teachers and students she would be working with. This is legitimate and consistent with case study representing practitioners in their own terms – it contributes to the validity of the account. Teachers and students were guided by their intuition and personal judgment when giving insights, confidences and interacting with Acacia. They strove to involve Acacia in the action of their classrooms, as both teachers and students chose their own form of participation. Teachers shared reflections about their pedagogy freely, encouraged Acacia to move around their classroom and ask students questions. For example, one teacher asked students to share their classwork and ask for feedback. Students didn't question her presence; they wove her into the process of their inquiry and treated her like a library or fact-checking resource. This bordered on participant observation.

The two school studies were supplemented – albeit briefly – by visits to two other PYP schools where the Principals network meetings were held, and which gave an opportunity to look inside further classrooms, to talk with students and to experience the ethos of the school.

It is tempting to think of these as two school case studies. They are not. We did not learn enough about the two schools – their histories, their people and their practices - to be confident of making that claim. Rather, they provide the observational base of this overall case study of the PYP in New Zealand.

SECTION TWO

Progress and achievement data

Background:
The purpose of this aspect of the evaluation is to evaluate student progress and achievement data in a sample of PYP schools in Aotearoa New Zealand in relation to national norms. The full and detailed account is given in the evaluation's Interim Report. The study utilises 2010 to 2014 e-asTTle (Electronic Assessment Tool for Teaching and Learning), PAT (Progressive Achievement Test), and STAR (Supplementary Test of Achievement in Reading) test data from five volunteer PYP schools in New Zealand. An important caveat is that these tests may or may not carry face validity for attributing achievement gains to the PYP. As we have seen, the PYP emphasises dispositions and conceptual understanding, and measurement of subject knowledge may not be sensitive to such learning modalities.

Summary:
The evaluation was tasked with assessing PYP achievement on standardized tests. With the data made available from five of the 14 PYP schools in New Zealand, comparisons were made with national normative parameters. A total 169 sets of analyses were carried out. Of those 169 comparisons, 158 (93.5%) were in favour of the PYP schools. Of the 158 in favour, 127 differences (representing 75.1% of total 169 sets) were statistically significant. Of those 127 statistically significant differences, all 127 (75.1% of total sets) represented small, medium, or large effect sizes suggesting that in over three quarters of tests, PYP achievement was higher. Of the total 127 small to large effect sizes, 50 were large (29.6% of total sets), 43 were medium-sized (25.4% of total sets), and 34 were small (20.1% of total sets) suggesting that the bulk of the significant differences were in the medium to large range. Interestingly, of the total 11 test sets where national comparative norms were higher, none of the differences were statistically significant ($p < .05$) in further support of PYP relative achievement. Overwhelmingly, results were supportive of the notion that achievement at PYP schools exceeds that of achievement in comparative high decile primary schools. More generally, the report suggests that the PYP programme can support positive academic learning outcomes among students in New Zealand, at least in economically high decile schools. Since only one of the PYP schools is not a high decile school we are unable to report on the likely impact on achievement of the PYP in low decile schools.

Our sample:
The evaluation was provided with student level test data from five of the 14 schools in New Zealand (IB Schools NZ, 2015) offering the PYP programme:

(1) SCHOOL 1 provided e-asTTle Mathematics, Reading, and Writing data from 2011 to 2014;
(2) SCHOOL 2 provided e-asTTle Reading and Mathematics data for 2014, and PAT Mathematics, Listening Comprehension, Reading comprehension, and Reading Vocabulary data from 2010 to 2013;

(3) SCHOOL 3 provided PAT Listening Comprehension, Mathematics, Reading Comprehension, and Reading Vocabulary data for 2014;

(4) SCHOOL 4 provided PAT Listening Comprehension and Mathematics data for 2014 and STAR data for 2013 and 2014;

(5) SCHOOL 5 provided PAT Mathematics, Listening Comprehension, Reading Comprehension, Reading Vocabulary, and Punctuation and Grammar data from 2010 to 2014.

Although a base of achievement data from all 14 schools would have provided a more robust evaluation of PYP student achievement, data from five of the 14 schools provides for a relatively large proportion of overall results. The total number of students' test results included in this analysis was 17,573 and the sum of all test sets analysed was 169. Therefore, some level of generalizability of results to the 14 PYP schools can be supported. It should be noted that the decision by schools to respond to the non-obligatory request for data may be biased. However, there is no reliable way to contrast volunteer from non-volunteer schools. Hence, all conclusions are robust for the specific schools and plausible for the IB PYP schools.

Data:

Tables 1 to 13 in the Appendix present the result of our analysis. What follows are comparative results by school.

School-by-school results:

SCHOOL 1: Tables 1 and 2 compare e-asTTle achievement to Auckland high decile city primary school parameters. In each of the 24 sets of analyses, e-asTTle achievement is statistically significantly higher ($p < 0.0001$) than achievement in comparative schools in the Auckland city region. Of the 24 sets of analyses, 16 represent large effect sizes ($d \leq 0.60$) suggesting that School 1 achievement in mathematics, reading, and writing is consistently above expectations.

SCHOOL 2: Table 3 compares e-asTTle achievement to Auckland high decile city primary school parameters. In all four sets of analyses, achievement at SCHOOL 2 is higher with three of the differences statistically significant ($p < 0.05$). Effect sizes for the differences are varied with one large, one medium, one small, and one negligible. Overall, results suggest that recent reading and mathematics achievement here is generally well ahead of comparative high decile schools in the Auckland city region.

Tables 4, 5, and 6 compare PAT achievement to high decile New Zealand population norms. In each of the 44 sets of analyses, achievement at this School is higher with 39 of the 44 differences statistically significant beyond the $p < .05$ level. Of the total 39 statistically significant differences, 13 were large, 12 were medium, and 15 were small. Overall, results suggest that, whilst controlling for decile group, standardized achievement at SCHOOL 2 was consistently higher than national norms.

SCHOOL 3: Table 7 presents a comparison with New Zealand high decile norms. Of the eight sets of analyses made, SCHOOL 3 achievement was above the national high decile norm on four occasions. Of those four instances, the difference was significant once ($p < .0001$). Of the instances when achievement

was not higher, differences were in each case statistically insignificant ($p < .05$). Results reveal only two small effect sizes, each of which suggest that achievement at SCHOOL 3 was slightly above comparative high decile schools in New Zealand. Overall, results suggest that, whilst controlling for decile group, achievement was either on par or slightly ahead of national norms.

SCHOOL 4: Table 8 compares PAT achievement to high decile New Zealand population norms. Of the 10 sets of analyses, achievement at SCHOOL 4 was higher on eight occasions. Of those eight instances, the differences were statistically significant five times ($p < .01$). Of the two instances when national norms were higher, differences were not statistically significant ($p < .05$). Coinciding with the five statistically significant results, analyses revealed three large and two medium effect sizes to substantiate the results. Overall, results suggest that achievement on PAT tests is higher than expected whilst accounting for decile grouping.

Table 9 makes a comparison with STAR and national high decile group norms. Of the 22 sets of analyses, achievement was higher on 19 occasions. Of the 19 instances when achievement was higher, results were statistically significant 10 times ($p < .05$). On the three instances when national normative achievement was higher, results were not statistically significant ($p < .05$). Of the 10 statistically significant results in favour of SCHOOL 4, there were three large, five medium, and two small effect sizes further substantiating the disparity between achievement. Overall, results suggest, while accounting for decile grouping, achievement on STAR is better than expected.

SCHOOL 5: Tables 10 to 13 make a comparison WITH all five PAT tests including the newly introduced punctuation and grammar test. Of the 57 sets of analyses, achievement was higher in 55 instances. Of these 55 instances, differences were statistically significant 45 times ($p < .05$). Of these 45 statistically significant results in favour of SCHOOL 5 achievement, analyses revealed 14 large, 18 medium, and 13 small effect sizes further substantiating findings. On the two occasions when mean achievement was below national high decile norms, results were not significant ($p < .05$). Overall, results are overwhelmingly supportive of achievement at SCHOOL 5. Achievement is consistently exceeds what would be expected at high decile schools across New Zealand.

National Normative Data:
New Zealand e-asTTle Mathematics, Reading, and Writing norms were made available to the evaluation by the Principal Research Analyst at the Ministry of Education. The test norms included means (μ) and non-symmetric upper and Lower quartiles (UQs, LQs) for Terms 1 to 4 from 2010 forward and 2012 forward for 20 clusters of schools. Cluster e-asTTle norms were matched appropriately to the sample data. For example, the most appropriate cluster to compare SCHOOL 1 with was the "Auckland, High Decile, City Primary Schools" cluster which consistently had highest mean e-asTTle scores among the 20 clusters. For the purpose of performing an ANOVA from summary data (Scheffé, 1999), upper and lower quartile test norms needed to be converted into estimated standard deviations ($\hat{\sigma}$). This was achieved via the following method: with the assumption of normality, an upper quartile value can be converted to a standard deviation value by multiplying it by the following fraction, 1.0000/0.6744, where 1.0000 represents one standard deviation and 0.6744 represents the standardized distance

from the mean for the upper quartile (Lowry, 2015). Therefore, an upper quartile value (UQ) can be converted to an estimated standard deviation ($\hat{\sigma}$) via Equation 1.

$$\hat{\sigma} = (UQ) \frac{1.0000}{0.6744}$$
(1)

Because the e-asTTle cluster norm upper and lower quartiles were asymmetric (i.e. did not represent equal values above and below the mean), an average value was estimated via Equation 2.

$$\hat{\sigma} = \frac{\left\{(UQ-\mu)\frac{1.0000}{0.6744}\right\} + \left\{(\mu-LQ)\frac{1.0000}{0.6744}\right\}}{2}$$
(2)

Therefore, by using Equation 2, estimated standard deviation values ($\hat{\sigma}$) were estimated for each comparative cluster's e-asTTle score.

PAT and STAR data norms were provided by the New Zealand Council for Educational Research (NZCER, 2015). Mean (μ) and standard deviation values (σ) were reported for the five PAT tests and STAR assessments. Expected increase in mean for higher decile clusters (deciles 8, 9, and 10) were also provided. More specific PAT or STAR normative data, pertaining to decile cluster and school location, for example, was not available from NZCER.

Estimated Population Counts:
To perform the ANOVA from summary data (Scheffé, 1999), population counts for each test needed to be estimated (this data was not available from either the Ministry of Education or the New Zealand Council for Education Research). Thus, an estimate of the population of student test takers ($\hat{P}$) was made based on the New Zealand Qualifications Authority annual report figures (NZQA, 2012, p. 11). In that report, the annual total number of Year 11 students in New Zealand from 2010 to 2012 ranged from 62,980 to 60,444, respectively, not dropping below 60,000. With these senior figures in mind, the estimated number of primary school students for each test from 2010 to 2014 was set at 60,000.

Stanine to Scale Score Conversion:
PAT test data from SCHOOL 5 was provided in stanine score only (1 to 9). These needed to be converted to scale scores for the purpose of comparative analysis. The exact PAT test used for each year group of students was first determined. The conversion to scale scores was made with reference to the following teacher manuals: Listening Comprehension PAT Teacher Manual (Twist et al., 2010), Comprehension and Vocabulary PAT Teacher Manual (Darr et al., 2008), Punctuation and Grammar PAT Teacher Manual (Eyre, Lawes, & Watson, 2013), and Mathematics PAT Teacher Manual (Darr, Neil, Stephanou, & Ferral, 2009). Scale score mean values for each stanine level were calculated and, with the assistance of SPSS 22 (IBM, 2014), stanine conversion to scale scores was made via the transform and recode into the same variables option.

Analysis of PYP Standardised Achievement Data:
With sample and population values, analysis of variance (ANOVA) procedures could be undertaken. ANOVA evaluates the difference in means as a ration of between group variances to within group variances (F test). This is a more powerful procedure than the

t-test comparison of means, since it considers the variability of within group scores as a possible confounder for the difference between means. In other words, if means differ but groups overlap in their score distributions, the ratio will be small and not indicate statistically significant differences.

ANOVA can be calculated from summary data (i.e., group size, mean, and standard deviation) when it is not possible to compare individuals. This was carried out using Pezzullo's (2015) online tool. For each test, year group and school, *F* levels and levels of significance were derived compared to the appropriate test mean. Statistical significance was accepted if the *F* value had a probability less than 5% ($p < .05$). Thereafter, the practical size of the difference (Effect size *d*) was determined using the *F* test to group unequal size procedure in Wilson's (2001) Effect Size calculator. The effect sizes were judged in accordance with Hattie (2009) whereby: small, $0.20 \leq d < 0.40$; medium, $0.40 \leq d < 0.60$; and, large, $d \geq 0.60$.

SECTION THREE
Curriculum Comparisons

Summary:
The evaluation was tasked with making a detailed comparison of the PYP curriculum with the New Zealand Curriculum (NZC). First we summarise our findings from the curriculum analysis and then provide a more detailed overview of our analysis of curriculum frameworks and content, and describe the methods used for this component of the study.

The comparison of the PYP and NZC reveals a pattern of coherence between these two curricula. The intentions they set out for learners, the themes, concepts, attitudes and values they promote are similar. These two curricula are to a great extent compatible with one another—notwithstanding, there are some notable points of difference. Some teachers pointed to the foreign language requirement of the PYP as its most distinctive feature, making many of their student trilingual (taking into account Te Reo Maori).The 'key intention' terms that were found to be unique to PYP are particularly revealing. They refer to both learners' decency (upholding moral standards, being principled, willing to grow, compassionate committed to service and balanced) and to the attributes seen in those who are brave, courageous and independent in spirit. The individualistic characteristic of those intentions unique to the PYP included dispositions of confidence, enthusiasm and independence. The centrality of the notion of international-mindedness (again, while not absent from the NZC) was also marked. A notable point of difference between these curricula is the prominence in the PYP of the expectation that learners carry out inquiries, take action and present the process and results of their inquiry and action in an exhibition process. None of the aspects identified as unique to the PYP are precluded by the content of the NZC, given it's flexibility and the role schools have in developing local curriculum within broad guidelines. But the priority these aspects are afforded in the PYP—the requirement for inquiry and action and the focus on international-mindedness in particular—stand out as particular.

As all Principals spoken to attested, it is feasible to mount an inquiry-based curriculum in the NZC, and there are examples of this. Those aspects of curriculum content that are subject to specification in the NZC are framed as 'learning encounters' and are pitched at a level of generalizability that allows situational interpretation. An inquiry approach to teaching can be woven through them. In the PYP, however, inquiry itself is the stipulation. In a sense, the procedure has become the content; the method becomes the curriculum.

Two dimensions of the respective curricula do stand out, in this regard. First, the professional development infrastructure and the accreditation process of the IB provide legitimacy, insights and continuing support for the risk-taking involved in replacing content with inquiry. They reinforce the stipulation of the inquiry approach. Second, that the NZC is only part of a broader curriculum framework

that is expressed through additional regulations, political expectations and accountability systems. While these do not deny a shift to inquiry-based curriculum, taken together they do not provide a supportive, encouraging context. Indeed, some aspects of the broader national 'curriculum' are talked of by some PYP people as discouragement - some cite the National Standards as an example. But the message of measures such as the Advanced Classroom Expertise Teacher, in a political context of pressure for improved results, is one of hierarchies of knowledge, competitive striving and risk-aversion. While the explicit content and frameworks of the two curricula are clearly well matched and make New Zealand an especially conducive context for PYP implementation, the realpolitik of the national schooling context suggests that PYP offers unique advantage to a school interested in shifting to an inquiry-based curriculum.

In the Interim Report we suggested that the PYP leaned towards a *process curriculum*[16] which, among other things, promotes the idea that:

"Education as induction into knowledge is successful to the extent that it makes the behavioural outcomes of the student unpredictable."[17]

This has been borne out by the school observational studies. This, too, marks a significant departure in comparison between the two curricula. The NZC and its accompanying paraphernalia are part of a national commitment to the principle that educational quality is given by levels of attainment. The PYP questions this definition of quality, although, as we show, there is certainly no detriment to achievement outcomes associated with the PYP. But the PYP curriculum is implemented out of a commitment to other understandings of what makes for educational quality.

Comparative Analysis of the two curricula:

A comparison of the two curricula was investigated through the systematic analysis of the alignment in the written content of key elements of the PYP and the NZC.

The approach to comparison: A systematic process of comparative content analysis of PYP and NZC curriculum documents was carried out to map elements of each curricula that are present or absent in the other, and the relative emphasis on those elements in each curricula. The NZC document referred to was 'The New Zealand Curriculum' (The New Zealand Ministry of Education, 2007). The key PYP document referred to was 'Making the PYP Happen: A Curriculum Framework for International Primary Education' (International Baccalaureate Organization, 2009i).

The analysis began with a comparison of overall structure. This was followed by comparative analysis of the content of curriculum elements deemed to be sufficiently equivalent to enable comparison between the PYP and the NZC. These elements included, the PYP Learner Profile/NZC Vision Statement; PYP Skills/NZC Key Competencies; PYP Attitudes/NZC Values; PYP Inquiry Pedagogy/NZC Effective

---

[16] Scott (2008)

[17] Stenhouse, (1975)

Pedagogy). Quantitative content analysis (Weber, 1990) was carried out for the material in the sections signalling intention – the PYP Learner Profile and the NZC. For other equivalent sections a qualitative approach was taken in which content, and explanations about the content were compared. For elements of the PYP for which there was not discrete comparable section in the NZC (for example, International Mindedness and Transdisciplinary Themes) the analysis focused on how that curriculum element was treated, if it was, across the NZC.

In some cases, curriculum elements referred to in the 'Making the PYP Happen: A Curriculum Framework for International Primary Education' text (International Baccalaureate Organization, 2009i) are elaborated in additional curriculum-related texts. Those texts were referred to in order to ensure the interpretations made about key curriculum elements were as accurate as possible. They included the 'IBPYP Basis for Practice' document, (International Baccalaureate Organization, 2008g), the 'The Primary Years Programme as a Model of Transdisciplinary Learning' document (International Baccalaureate Organization, 2010) and the PYP Exhibition Guidelines (International Baccalaureate Organization, 2008a). In addition, to make comparisons about the subjects of the IBPYP and the learning areas and strands of the NZC, the PYP scope and sequence documents were included in the analysis (International Baccalaureate Organization, 2008c, 2008e, 2009a, 2009c, 2009e, 2009g).

Comparison of overall structure: PYP/NZC
Both the PYP and the NZC present an overview diagram that signals the multiple elements and structure of the respective curricula. In those structures (see below) there are both some similarities, and some notable differences in the emphases of these two curriculum statements. Both foreground desired outcomes of the curriculum for young people – the PYP through the central positioning of the Learner Profile for the kind of young people the it aims to develop, and the NZC through the over-riding position of the vision statement about 'what we want for young people'. Both emphasize long terms outcomes and purpose of the curriculum with regard to the kind of people it aims to develop. The PYP and the NZC both give attention to subjects, or learning areas, as one of the organisers of the curriculum set out in the overview diagram. Both also position attention to pedagogical approaches and attitudes (PYP) or values (NZC). The broad structural organisaton of the curricula is suggestive of at least a degree of coherence between these curricula.

PYP Overview diagram: NZC Overview diagram:
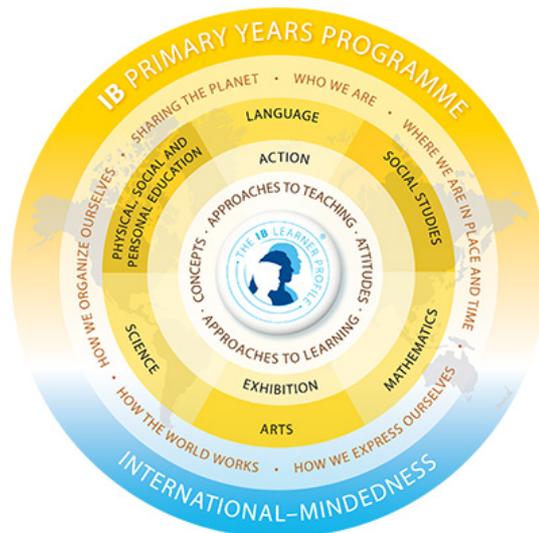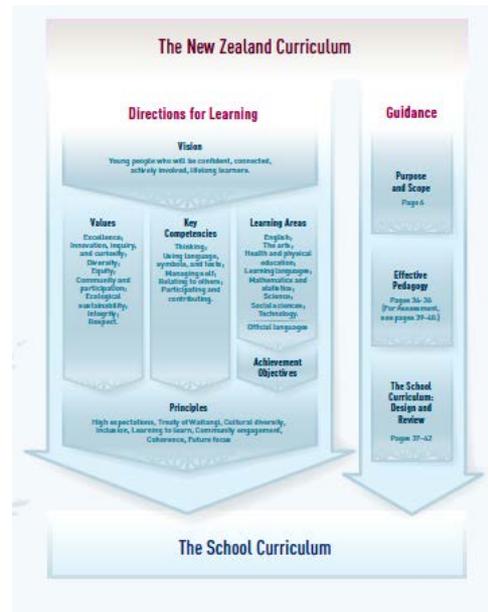
Differences are apparent with regard to some aspects of the curricula structures as indicated in the diagrams. The key competencies of the NZC have no direct parallel in the PYP, but such competencies are embedded in the more particular expectation the PYP sets out for 'Action' and 'Exhibition'—a collaborative, transcisciplinary inquiry process that integrates other PYP elements, and culminates in the presentation of their inquiry to the school community. The inquiry, action and exhibition process of the PYP resonates with the key competencies of the NZC, but the process and expectations are both more explicit and more structured than the expectations set out for the key competencies. Similarly, the cross currciular themes that have such prominence as an organiser in the PYP are unique, not so much in content, but in their positioning. While concepts are included in the overview of the PYP, they are not prominent in the NZC overview—since concepts are set out not at the overall curriculum level in the NZC, but within each individual learning area. Most noticeable in the PYP overview distinct from the NZC one is the presence, and prominence, of international-mindedness—positioned in the diagram in a way that signals it is fundamental to the PYP and related to all other curriculum elements.

The Comparative Analysis of Curriculum Elements
The following table outlines key elements of the PYP identified as most relevant to focus on for the purpose of content comparison. It also indicates elements (or sections) of the NZC deemed most comparable in nature to the IB elements (equivalent sections), though the overall comparison is not restricted to the equivalent sections.

Table 1 Comparison comparable curriculum elements

PYP key elements	NZC comparable curriculum element
IB Learner profile	Vision Statement
International Mindedness	
Transdisciplinary themes	Future focused issues
Concepts	-
Skills	Key competencies
Attitudes	Values
Action	Key competencies
Inquiry pedagogy	Effective pedagogy

Comparing Intention: The IB Learner Profile and the NZC Vision Statement

The PYP Learner Profile provides a long-term vision of education. It is a set of ideals that can inspire, motivate and focus the work of schools and teachers, uniting them in a common purpose. The comparable section of the NZC is the Vision section. It sets out the vision (what we want) for young people. Both curricula are aspirational and outcomes-focussed, setting out the intentions of the curriculum and broadly stating desirable outcomes for learners.

The approach taken to comparing intention

In order to compare the intentions of the PYP and the NZC a systematic comparison of the content of the Learner Profile and the NZC was carried out. First, key terms in the PYP Learner Profile were identified and listed. A systematic search was then carried out for the same or similar terms in the Vision (equivalent) section of the NZC and also in the remaining sections of the NZC document.   As well as identifying the presence or absence of same or similar terms, in equivalent or alternative sections, the analysis paid attention to the positioning and emphasis of those terms. The analysis of the presence and absence of curricular terms and the sections in which they appear was not intended to provide an exact quantitative measure of curriculum alignment. Rather, it was intended to signal an overall pattern of coherence in the curricular intentions of both PYP and NZC. The intention terms used for this analysis (drawn from each PYP Learner Profile statement) are outlined in the list below:

1. Internationally minded
2. common humanity
3. Shared guardianship of the planet
4. Help to create a better and more peaceful world
5. Inquirers
6. Curiosity
7. Inquiry/Research
8. Independence
9. Enjoyment/love of learning
10. Sustained learning
11. Knowledgeable
12. Concepts/ideas
13. Issues - local global significar
14. Broad/balanced/range of disciplines
15. Thinkers

23. Creative expression
24. More than one language
25. Variety of communication modes
26. Effective/willing collaboratior
27. Principled
28. Integrity
29. Honesty
30. Fairness
31. Justice
32. Respect for dignity of individuals/groups/communit
33. Responsibility for actions an consequences
34. Open-minded
35. Cultural appreciation
36. Open to perspectives/values/tradition

42. Respect towards the needs and feelings of others.
43. Personal commitment to service
44. Act to make a positive difference to the lives of others and to the environment.
45. Risk-takers –
46. Approach unfamiliar situations and uncertainty with courage and forethought,
47. Independence of spirit
48. Brave and articulate in defending their beliefs.
49. Balanced - Intellectual,

16. Initiative	others	physical and emotional
17. Critical thinking	37. Seek/evaluation range of poi	balance
18. Creative thinking	of view	50. Reflective –thoughtful
19. Problems	38. Willingness to grow	consideration
20. Reasoned-ethical decisions	39. Caring	51. Assess and understand
21. Communicators	40. Empathy,	their strengths and
22. Confident expression	41. Compassion	limitations

The overall coherence in curricular intentions: PYP and the NZC

The comparative process outlined above identified curricular intentions that are expressed with the same or similar terms in the NZC equivalent section (Vision) or in other sections of the NZC. It also identified terms that are unique to the PYP. The details of the analysis are presented in Appendix 1, and are summarised below (**Error! Reference source not found.**).

Table 2 Comparison of Terms Expressing Curricular Intention: PYP and the NZC

PYP Learner Profile key intention terms – Categories for comparison with NZC	Number and percentage of the 51 PYP intention terms
Same term present in NZC equivalent section (Vision)	9 (18%)
Similar term present in NZC equivalent section (Vision)	11 (22%)
Same term absent in NZC equivalent section (Vision)	31 (61%)
Same term absent in Vision section but present in NZC alternative section	21 (41%)
Same term absent in Vision section but similar term present in NZC alternative section	4 (8%)
Term absent from NZC altogether (ie. Term unique to PYP)	8 (16%)

The majority of the 51 PYP intention terms (84%) are also present (expressed in either exactly the same way, or in a way similar enough to indicate coherence) in the NZC. Of the 51 identified key terms in the PYP Learner Profile, nine of those same (or nearly identical) terms are also evident in the equivalent NZC curriculum section—the Vision statement. These include reference to students being 'knowledgeable', being 'thinkers'—both critical and creative, and 'communicators' with 'confident expression' and 'creative expression' as well as the importance of 'concepts/ideas'. A further eleven terms (22%) are matched in the NZC Vision section with a nearly identical term. For example, while the PYP refers to students being 'internationally minded', in the NZC there is reference in the Vision section to the aspiration for 'international citizens'. In other sections of the NZC there is also reference to students being encouraged to participate in the global community (in the Foreword) and to active involvement in communities including the global community (in the Key Competencies). While 31 of the 51 key terms (61%) from the PYP are not present in the vision section, in 25 instances (49%) the same or similar term is present elsewhere in the NZC—for example in the Key Competencies, Values or Effective Pedagogy sections.

Only eight of the key PYP intention terms are not present at all in the NZC. These terms are most revealing, since they signal key emphases unique to the PYP. These unique terms are:

- Principled
- Willingness to grow
- Compassion
- Personal commitment to service
- Approach unfamiliar situations and uncertainty with courage and forethought,
- Independence of spirit
- Brave and articulate in defending their beliefs.
- Balanced - intellectual, physical and emotional balance

These unique IB intention terms are characterised by two overarching qualities—the first encompasses notions of decency and upholding a moral standard (signalled by the qualities of being principled, willing to grow, compassionate, committed to service and balanced), and the second is a the personal quality of individual boldness (in terms of being brave, courageous and independent in spirit).

The comparison of intention terms highlight that, overall, the PYP and the NZC are driven by similar intentions for their learners, in the present and the future. The majority of the intention terms in the IB Learner Profile (84%) are indicated in an identical or similar way in the NZC. These curricula are not incompatible. The comparison also highlights important points of uniqueness in the intentions of the PYP - intentions for students to demonstrate the qualities discussed above. The analyses reported in the following sections about other curriculum elements will add to this picture of what is unique about PYP.

The findings signalling both overall coherence and points of uniqueness suggest the need for attention to emphasis, positioning and nuanced consideration of implementation – such implementation is described in the case study section. Consideration of implementation is also particularly important given the nature and status of the NZC—recognised for its flexibility and the autonomy it affords teachers and its lack of detailed prescription—it creates space for teachers to interpret and give emphasis to aspects not necessarily included or emphasised in the written document itself. One cannot assume, therefore, that aspects apparently unique to the PYP as indicated by the comparison of written content, are unique in practice. Take, for example, the notion of courage, mentioned in the PYP text, but not the NZC. The lack of an explicit requirement for 'courage' to be addressed does not mean that it is not, in practice. A simple Google search for New Zealand school values reveals that numerous schools have 'courage' as a core value—they have interpreted the NZC and responded to the needs and aspirations of their own students and communities. While the NZC did not explicitly prescribe an aspiration for courageous learners, it also did not, and does not, preclude it.

Comparing International Mindedness: PYP Learner Profile and the NZC
The purpose of the PYP to develop internationally minded young people is foregrounded throughout the curriculum document (International Baccalaureate Organization, 2009i). As mentioned above, it is prominent in the overview

diagram. It is also given prominence in framing the IB Learner Profile—"*The aim of all IB programmes is to develop internationally minded people* who recognizing their common humanity and shared guardianship of the planet, help to create a better and more peaceful world" (International Baccalaureate Organization, 2009i, emphasis added). Although IB documentation suggests the elusive nature of international mindedness, demonstrating the attributes outlined in the Learner Profile are considered evidence of international mindedness. The IB aspirations are long-term ones—the goal is not just for the Learner Profile to be met in the schooling years, but for a foundation "upon which international mindedness will develop and flourish" (International Baccalaureate Organization, 2009i, p. 2).

The NZC includes statements in the general 'front-end' sections, and in some particular learning area statements, that touch on the contribution of curriculum to developing global citizens in terms that are consistent with the notion of international mindedness. The competency, 'Participating and contributing', for example, describes students 'being actively involved in communities…they may be local, national, or global" (Ministry of Education, 2007, p. 12). International mindedness is also implicit in the NZC purpose statement for the Learning Languages learning area, that "languages link people locally and globally. They are spoken in the community, used internationally, and play a role in shaping the world" (Ministry of Education, 2007, p. 24). Similarly, the role of social sciences in developing students' "knowledge and skills to enable them to: better understand, participate in, and contribute to the local, national, and global communities in which they live and work" (p. 30) and the globalization future focus whereby students explore what it means to be part of a global community that is diverse, are coherent with the IB notion of international mindedness. As the above examples suggest, what the NZC sets out is inclusive of (or at least not in opposition to) international mindedness, but it is expressed in slightly different terms to the PYP, and with markedly less prominence given it's positioning within curriculum sections rather than as a key curriculum element.

Comparing transdisciplinarity
The PYP outlines six transdisciplinary themes that are considered essential to the goal of ensuring significant learning for students. The themes include:

- *Who we are*: An inquiry into the nature of the self; beliefs and values; personal, physical, mental, social and spiritual health; human relationships including families, friends, communities, and cultures; rights and responsibilities; what it means to be human.

- *Where we are in place and time:* An inquiry into orientation in place and time; personal histories; homes and journeys; the discoveries, explorations and migrations of humankind; the relationships between and the interconnectedness of individuals and civilizations, from local and global perspectives.

- How we express ourselves: An inquiry into the ways in which we discover and express ideas, feelings, nature, culture, beliefs and values; the ways in which

we reflect on, extend and enjoy our creativity; our appreciation of the aesthetic.

- *How the world works:* An inquiry into the natural world and its laws; the interaction between the natural world (physical and biological) and human societies; how humans use their understanding of scientific principles; the impact of scientific and technological advances on society and on the environment.

- *How we organize ourselves:* An inquiry into the interconnectedness of human-made systems and communities; the structure and function of organizations; societal decision-making; economic activities and their impact on humankind and the environment.

- *Sharing the planet:* An inquiry into rights and responsibilities in the struggle to share finite resources with other people and with other living things; communities and the relationships within and between them; access to equal opportunities; peace and conflict resolution.

The transdisciplinary themes frame the knowledge PYP treats as desirable for students to know about. They seek to transcend the boundaries of the traditional subjects and, as such, provide an outline of the themes of global significance through which students can explore the commonalities of human experiences, supported by the knowledge, concepts and skills from the traditional subjects. Importantly, they also transcend the subject areas themselves, and are intended to ensure learning through the PYP curriculum is connected to the real world. In this way, 'transdisciplinary learning' is distinct from the terms often treated as synonymous, such as 'interdisciplinary', 'integrated', 'multidisciplinary' and 'thematic'.

The NZC has no distinct, directly equivalent section to the PYP transdisciplinary themes, but transdisciplinary learning is promoted in several aspects of that national curriculum—in particular through the 'future focus' principle and in the key competencies. The 'future focus' principle is one of eight set out to guide curriculum decision making in the NZC—it outlines that "the curriculum encourages students to look to the future by exploring such significant future focused issues as sustainability, citizenship, enterprise, and globalization" (p. 9). An elaboration of how that might be achieved suggests "future focused issues are a rich source of learning opportunities. They encourage the *making of connections across the learning* areas, values, and key competencies, and they are relevant to students' futures" (emphasis added, p. 39). The NZC suggests the exploration of such issues as:

• *sustainabilit*y – exploring the long-term impact of social, cultural, scientific, technological, economic, or political practices on society and the environment;
• *citizenship* – exploring what it means to be a citizen and to contribute to the development and well-being of society;
• *enterprise* – exploring what it is to be innovative and entrepreneurial;

• *globalisation* – exploring what it means to be part of a global community and to live amongst diverse cultures. (NZC, p. 39)

The key competencies of the NZC also have resonance with the notion of transdisciplinary learning in the PYP given the intention that they transcend subject boundaries, connect with the real world, and emphasise inquiry.

Coherence in intentions for transcending subject boundaries, making real world connections and emphasising inquiry

Transcending subject boundaries is emphasised in both curricula. The future focused themes of the NZC (which are examples only) are consistent with the PYP transdisciplinary themes in that they encourage learning 'across the learning areas' just as the 'transdisciplinary themes' focus on transcending subject boundaries. The future focused themes emphasize global matters, the place of individuals and groups in societies, and environmental concerns such as sustainability. Similarly, the NZC key competencies are described as emphasising that learners should transcend the mastery of discrete skills and the acquisition of content knowledge that has traditionally been limited by subject boundaries.

Real world relevance is also central to learning in both the NZC key competencies and the PYP transdisciplinary themes. Demonstration of the key competencies requires the application of learning in authentic contexts, and requires the transfer of learning beyond the classroom, beyond the school and beyond subject specific settings. The future focused themes and key competencies, like the IB transdisciplinary themes, also create space for student inquiry –in this regard there is coherence between the curricula. The themes are presented not as themes to encounter, but as themes/issues to actively inquire into or explore. Student inquiry in the NZC, on the other hand, is possible, and encouraged, though not compulsory as it is in the IB programme. In the PYP a series of collaborative student inquiries are required, and are a central component of the programme leading to the exhibition presentation.

Many of the central concepts of the PYP interdisciplinary themes also resonate with learning set out as important in the NZC, but once again they are much less prominent (in the overarching statements, at least) and given less emphasis. In the NZC many ideas central to the transdisciplinary themes are typically situated within particular learning area statements, rather than being explicitly treated as transdisciplinary in nature. For example, the transdisciplinary theme "How we organize ourselves" resonates strongly with the strand aims, and conceptual understanding in the achievement objectives in the Social Sciences learning area of the NZC. As the table below shows, with each concept colour coded, there is a great deal of overlap in the concepts.

Table 3 PYP transdisciplinary themes and the NZC Social Sciences Learning Area: An example of common concepts

PYP: Transdisciplinary theme – How we organize ourselves	NZC: Excerpts from the Social Sciences learning area statement
How we organize	In the social sciences, students explore how societies

ourselves: An inquiry into the interconnectedness of human-made systems and communities; the structure and function of organizations; societal decision-making; economic activities and their impact on humankind and the environment	work and how they themselves can participate and take action as critical, informed, and responsible citizens. They develop understandings about how societies are organised and function and how the ways in which people and communities respond are shaped by different perspectives, values, and viewpoints. As they explore how others see themselves, students clarify their own identities in relation to their particular heritages and contexts. Identity, Culture, and Organisation – Students learn about society and communities and how they function. They also learn about the diverse cultures and identities of people within those communities and about the effects of these on the participation of groups and individuals. Place and Environment – Students learn about how people perceive, represent, interpret, and interact with places and environments. They come to understand the relationships that exist between people and the environment. Continuity and Change – Students learn about past events, experiences, and actions and the changing ways in which these have been interpreted over time. This helps them to understand the past and the present and to imagine possible futures. The Economic World – Students learn about the ways in which people participate in economic activities and about the consumption, production, and distribution of goods and services. They develop an understanding of their role in the economy and of how economic decisions affect individuals and communities contexts

Significant differences in the treatment of, emphasis on, and positioning of transdisciplinary learning in the PYP and the NZC

Transdisciplinary learning is present in both the PYP and the NZC, but its treatment, emphasis and positioning varies in the two curricula. Transdisciplinary learning in the NZC is relatively subtle and tends to be treated incidentally, unlike in the PYP where such learning has a central role in the organization of curriculum content. The exception to that difference is in the NZC key competencies that are prominent, since they are positioned in the 'front-end' of the document, and are part of the curriculum that is set out as prescription rather than guidance.

Interestingly, while both curricula argue a desire for subject boundaries to be transcended, both persist in outlining content in subject-bounded ways. This is perhaps inevitable, since to signal boundaries that are to be transcended, requires attention to what those boundaries might otherwise be. The PYP And the NZC express those boundaries similarly, as indicated by the similar organisation of content into disciplinary based subject/learning areas, and similar structures to the sub-strands. The notable exceptions are the inclusion in the NZC of learning areas for Technology and for Learning Languages.

Table 4 Comparison of PYP and NZC subjects/learning areas and strands

The International Baccalaureate Primary Years Programme		The New Zealand Curriculum	
Language	Oral Language Visual Language Written Language / Receptive Expressive	English	Oral language Written language Visual language / Making meaning Creating meaning
Mathematics	Data handling Measurement Shape and space Pattern and function Number	Mathematics and Statistics	Number and Algebra Geometry and Measurement Statistics
Social Studies	Human systems and economic activities Social organization and culture Continuity and change through time Human and natural environments Resources and the environment	Social Sciences	Identity, Culture and Organisation Place and Environment Continuity and Change The Economic World
Science	Living things Earth and space Materials and matter Forces and energy	Science	The Nature of Science The Living World Planet Earth and Beyond The Physical World The Material World
Arts	Responding Creating	The Arts	Dance Drama Music – Sound Arts Visual Arts
Personal, social and physical education	Identity Active living Interactions		Personal Health and Physical Development Movement Concepts and Motor Skills Relationships with Other People Healthy Communities and Environments
		Technology	Technological Practice Technological Knowledge The Nature of Technology
		Learning Languages	Communication Language Knowledge Cultural Knowledge

Comparing concepts: The place of concepts in the PYP and the NZC

The PYP is committed to a concept-driven curriculum through which to support inquiry. There are eight concepts – form, function, causation, change, connection, perspective, responsibility, and reflection. A question is outlined for each of the concepts, forming the basis for inquiry. The curriculum also details both a generic perspective on that concept, as well as a perspective on each of the concepts relevant to each particular subject area. For example, for the concept 'causation', the generic perspective is "Things do not just happen. There are causal relationships at work, and actions have consequences" and the social studies perspective on that same concept is "The causes and effects of human and natural events" (p. 108).

In the NZC, the concepts are expressed within each learning area, rather than as a generic set of concepts from which subject-specific perspectives are outlined, as in the PYP. The comparative analysis shows that those generic concepts, used as a structural organiser in the PYP are also present in at least one, and typically several, learning areas of the NZC. This indicates, from a curriculum concepts point of view, strong conceptual coherence between the PYP and NZC curricula despite the fact that they are organised and structured differently. The following table illustrates that coherence by outlining the PYP concepts (in the left column), an example of a NZC achievement objective from one learning area that also refers specifically to that concept (in the middle column) and the subject specific perspective on that concept from the same or equivalent learning are to the NZC example (in the right column). Both the overall match in the concepts between the two curricula, and the similarity in the more detailed expression of those concepts signals strong coherence in curriculum concepts between the PYP and the NZC.

Table 5 Comparison of PYP and NZC subjects/learning areas and strands

IBPYP concepts	Examples of NZC Achievement objectives which include the IBPYP concepts	IB subject specific perspectives on the concepts (the subject matching the NZC example in middle column)
Form	English, Speaking, writing, presenting, Level 2: Constructs texts that demonstrate a growing awareness of audience and purpose through appropriate choice of content, language, and text form;	Language perspective on the 'form' concept: Every language has a form and a structure that makes it unique. Form may vary according to whether language is written or spoken.
Function	The Arts, Music, Sound arts, Level 1: Explore and share ideas about music from a range of sound environments and recognise that music serves a variety of purposes and functions in their lives and in their communities.	Arts perspective on the 'function' concept: "Arts uses creativity to convey a message that can be practical educational, cultural or personal. A relationship is developed between the artist and the audience whereby informed opinions or choices may be made" (p. 133)
Causation	Science, Living World, Ecology, Level 7: Explore ecological distribution patterns and explain possible causes for these patterns.	Science perspective on the 'causation' concept: The effect brought about by an intended or unintended action or reaction.
Change	Science, Living World, Evolution, Achievement Aim: Understand the processes that drive change in groups of living things over long periods of time and be able to discuss the implications of these changes.	Science perspective on the 'change concept: The concept of change, also described as transformation, is a pervasive concept in science. Change is an inevitable aspect of the physical world as things become different or pass from one form to another. It can be natural or brought about and accelerated by outside influences.
Connection	English, Listening, reading and writing, Level 6: makes connections by interpreting ideas within and between texts from a range of contexts;	Science perspective on the 'connection' concept: Language is a major connecting system within, between and among all societies
Perspective	Social Sciences, History, Level 6 Understand how people's perspectives on past events that are of significance to New Zealanders differ.	Science perspective on the 'perspective' concept: The ways in which humans connect knowledge and experience that lead to diverse understanding'
Responsibility	Health and Physical Education, Personal Health	Personal, social and physical education

	and Physical Development, Level 2 Describe their stages of growth and their development needs and demonstrate increasing responsibility for self-care.	perspective on the 'responsibility' concept: How can you move around the space safely? Why is it important to warm up before exercising?
Reflection	The Arts Learning Area Statement: Through arts practices and the use of traditional and new technologies, students' artistic ideas are generated and refined through cycles of action and reflection.	Arts perspective on the 'reflection' concept: We consciously reflect on, evaluate and describe how we have expressed ourselves through the acquisition of the elements of dance, drama, music and visual art. We also reflect on the performance of others in the pursuit of self-improvement.

Comparing skills: The PYP Skills and the NZC Key competencies

The IB Learner Profile outlines five broad sets of transdisciplinary skills—thinking skills, social skills, communication skills, self-management skills, research skills. In addition it details more specific skills relating to each. For example, the broad transdisciplinary skill of 'self-management' is further elaborated to detail skills relating to gross motor, fine motor, spatial awareness, organization, time management, safety, healthy lifestyle, codes of behaviour and informed choices.

The PYP transdisciplinary skills, given their nature and organisation, resonate more with the outline of essential skills of the previous New Zealand curriculum framework (New Zealand Ministry of Education, 1993) than with the current (2007) curriculum. Whilst the skills are described as required for carrying out purposeful inquiry, and recognised as needed to support the complexities of students lives (p. 21), they do not reflect, as many more current curricula internationally do, the move to a competency focused approach in contrast to skills.

Increasingly, curriculum policies are moving towards emphasizing twenty-first century, key competencies for lifelong learning. Key competencies integrate knowledge, attitudes and values in ways that lead to action. They cannot be taught discretely, are context dependent, and involve practice and application in authentic real-world contexts (Rychen and Salganik, 2003). Unlike discrete skills, key competencies are described as having transformative potential (Reid, 2006); the potential to transform students' and teachers' experience of teaching and learning to be quite different from traditional approaches. An emphasis on competencies seeks to enable learners to transcend the mastery of discrete skills and acquisition of content knowledge that has traditionally been the focus of curricula. They are described by many as critical because of the complex demands and challenges of today's world. (Sinnema & Aitken, 2013, p. 146-147)

The skills rather than competencies orientation of PYP (with regard to the transdisciplinary skills, at least) is curious given that many of the aspirations of the IB are consistent with definitions of competencies—for example, action, authentic contexts, and transdisciplinarity. In this regard the transdisciplinary skills are an element with less coherence with the NZC, and also less internal coherence with other statement in the PYP itself.

Comparing Attitudes: The PYP attitudes and the NZC Values

The PYP outlines 12 attitudes that are defined as 'dispositions that are expressions of fundamental values, beliefs and feelings about learning, the environment and people' (p. 10). The NZC outlines eight values that are to be encouraged, modelled, and explored. While these elements are different in name, they are comparable from a curriculum comparison point of view since they are similar in framing, nature and purpose. The PYP attitudes and the NZC values are to a large extent, consistent with one another. In the statements from a relatively small overall set of attitudes (12) and values (8) there are eight important attitudes/values that are identical in both—the notions of perseverance, curiosity, creativity, diversity, integrity, honesty, fairness and respect for oneself and others. Unique to the IB, for example, are notions of appreciation, enthusiasm, tolerance, commitment and confidence. Unique to the NZC, for example, are notions of cultural values, community. Equity and ecological sustainability.

Table 6 Comparison of PYP Attitudes and NZC

PYP Attitudes	NZC Values
In PYP schools, students should demonstrate:	Students will be encouraged to value:
Appreciation: Appreciating the wonder and beauty of the world and its people	Excellence, by aiming high and by persevering in the face of difficulties;
Commitment: Being committed to their own learning, persevering and showing self-discipline and responsibility	Innovation, inquiry, and curiosity, by thinking critically, creatively, and reflectively;
Confidence: Feeling confident in their ability as learners, having the courage to take risks, applying what they have learned and making appropriate decisions and choices	Diversity, as found in our different cultures, languages, and heritages;
Cooperation: Cooperating, collaborating, and leading or following as the situation demands	Equity, through fairness and social justice;
Creativity: Being creative and imaginative in their thinking and in their approach to problems and dilemmas	Community and participation for the common good;
Curiosity: Being curious about the nature of learning about the world, its people and cultures	Ecological sustainability, which includes care for the environment;
Empathy: Imagining themselves in another's situation in order to understand his or her reasoning and emotions, so as to be open-minded and reflective about the perspective of others	Integrity, which involves being honest, responsible, and accountable and acting ethically;
Enthusiasm: Enjoying learning and willingly putting the effort into the process	Respect themselves, others, and human rights.
Independence: Thinking and acting independently, making the own judgments based on reasoned argument, and being able to defend their judgments	Through their learning experiences, students will learn about: - their own values and those of others; - different kinds of values, such as moral, social, cultural, aesthetic, and economic values; - the values on which New Zealand's cultural and institutional traditions are based; - the values of other groups and cultures.
Integrity: Being honest and demonstrating a considered sense of fairness	Through their learning experiences, students will develop their ability to: - express their own values; - explore, with empathy, the values of others; - critically analyse values and actions based on them; - discuss disagreements that arise from differences in values and negotiate solutions; - make ethical decisions and act on them.
Respect: Respecting themselves, others and the world around them	
Tolerance: Being sensitive about differences and diversity in the world and being responsive to the needs of others.	

There are, in addition, some unique aspects in each. Specific mention of 'the world' in four of the 12 PYP attitudes (appreciation, curiosity, respect and tolerance) is consistent with the emphasis overall in PYP on international mindedness, and suggests a notable point of difference from the NZC values. While the NZC values are potentially applied to 'the world' they are less explicit in their prompts to consider the wider world. Several of the PYP attitudes that are not directly matched by a NZC value are, in contrast, quite individualistic in

65

emphasis—they include attitudes of confidence, enthusiasm and independence. None of those are treated as values in the NZC, but confidence is mentioned multiple times in other sections of the NZC, and independence (or 'independent') is mentioned twice in the NZCE—in relation to the key competencies, "they know when to lead, when to follow, and when and how to act independently", p. 12) and in The Arts learning area statement. Enthusiasm, in contrast, is not mentioned at all in the NZC.

A notable characteristic of the NZC values that appears absent from the PYP attitudes is the attention to the cultural context in which the curriculum is implemented—New Zealand. The NZC values signal that "through their learning experiences, students will learn about: …the values on which New Zealand's cultural and institutional traditions are based" (p. 10). Perhaps unsurprisingly, given the international nature of the PYP programme and curriculum, there is no specific mention of New Zealand, but the absence of attention in the attitudes section to attitudes of relevance to the (any) particular cultural context in which it is implemented is noteworthy, particularly in a curriculum that foregrounds international mindedness.

Comparing the place of action in the PYP and the NZC
In the IB written curriculum, there is an explicit expectation that inquiries will lead to action:
In the PYP, it is believed that education must extend beyond the intellectual to include not only socially responsible attitudes but also thoughtful and appropriate action. An explicit expectation of the PYP is that successful inquiry will lead to responsible action, initiated by the student as a result of the learning process. This action will extend the student's learning, or it may have a wider social impact, and will clearly look different within each age range. PYP schools can and should meet the challenge of offering all learners the opportunity and the power to choose to act; to decide on their actions; and to reflect on these actions in order to make a difference in and to the world (International Baccalaureate Organization, 2009i, p. 25)

There is, similarly, attention to action in the NZC (2007):
- Values: students will "make ethical decisions and act on them." (p. 10)
- Key competencies: "the competencies draw also on knowledge, attitudes, and values in ways that lead to action" (p. 12)
- Participating and contributing key competency: "This competency is about being actively involved in communities." (p. 13)
- Social sciences learning area: "In the social sciences, students explore how societies work and how they themselves can
- participate and take action as critical, informed, and responsible citizens." (p. 17)
- Health education: "Students use these skills and understandings to take critical action to promote personal, interpersonal, and societal well-being." (p. 23)

The references to action in the PYP use language with a much stronger sense of compulsion ('must', 'will', 'should', 'expectation') than in the NZC. In that sense, action is more prominent in the PYP. Despite the keen support in the NZC for students taking action in authentic contexts, the PYP undoubtedly affords action

greater emphasis and importance given the positioning of 'action' as an essential element in the organisation of the curriculum, through the focus on action as part of students' inquiries, and through the exhibition as a structured forum for demonstrating action.

Comparing messages regarding pedagogical approach in the PYP and the NZC

In the PYP, inquiry is set out as the leading pedagogical approach. This refers to students being actively involved, initiating and taking responsibility for their learning. It takes many forms (such as: exploring, wondering and questioning; making predictions and acting purposefully to see what happens; collecting data and reporting findings). In the NZC, no 'leading' pedagogical approach is set out (as in the Bruner example given above), but rather a model of *Teaching as Inquiry* is set out. That model, rather than stipulating particular teaching approaches, tasks teachers with inquiring into and making a judgement about what approach/es is/are most likely to work (Teaching inquiry) given the priorities they have established as most important for students (Focusing inquiry). The teaching inquiry requires teachers to attend to both practitioner and research evidence as informants of their decisions about approach. That teacher inquiry could legitimately lead to either the choice of, or rejection of student inquiry as the most promising approach given the particular learning context and particular learner/s involved. So, like for other curriculum elements, the NZC does not preclude the focus on student inquiry as a pedagogical approach, but neither does it require it.

SECTION FOUR
Conclusion: Curriculum Issues

The PYP and school innovation

In this final section we take a broader look at the PYP in the field of curriculum innovation. This includes positioning the curriculum within a range of other prominent curriculum innovations elsewhere. The field of curriculum innovation has suffered from modern assumptions that curriculum and curriculum practices can be changed through the expression of policy. While true to only a limited extent (policies are easily subverted by custom) there remains a challenge to understand just how it is that schools and curriculum respond to innovation. The section closes with a discussion of the implication of the PYP for New Zealand schools in relation to cultural diversity and the intense concern in this country with academic achievement in schools of low-decile socio-economic status.

The history of curriculum innovation in schools suggests that whole-school approaches are more likely to have purchase, but that they come at a price. In New Zealand, the PYP takes a whole-school approach to curriculum innovation, not least because of the ease with which the NZC maps onto the PYP and, thereby, creates minimal values conflicts. Curriculum innovation frequently fails as a result of internal tensions in a school between innovation staff and staff of the 'host culture'[18]. Innovation is most often seen as a threat to established orders[19] in that they destabilise patterns of power, custom and habitual practice.

What tends to have happened in NZ PYP schools is that in each school's preparation for the formal adoption of the PYP (accreditation) the established order has been removed and replaced with an innovation culture. Some school Principals describe this as a process that takes up to two years and involves the departure of staff unwilling to engage in the change process. What are left are communities of what have (in the school innovation speak powerfully of this analysis. In Smith & Keith's study there was even evidence of how collective religious belief provided a psychological and a moral commitment that translated into a capacity to withstand the challenges of educational innovation, and this, too, finds an echo in our observations. Aspects of true belief in Smith & Keith include 'high aspirations', a 'framework for faith', 'jargon' (i.e. a dedicated language) and, interestingly, 'inexperience and naiveté'. The latter is not derogatory, but suggests that any innovation, by its nature, renders the practitioner 'momentarily incompetent'[20] and without the body of experience to draw from to make judgements about how to solve immediate problems. All is

---

[18] Sannino & Nocon, (2009)

[19] Schon, (1971)

[20] MacDonald & Walker, (1976

new. Practice has to be re-learned. Even the self has to be re-educated by new experiences. All of this we observed.

Smith[21] in reflecting back on their experience of anatomising innovation drew a distinction between educational innovation and educational change. *"Very simply put, we see educational innovation as a specific planned improvement. As such it is just one class of phenomena in the larger category of educational change."* [p. 26]. What we see in this evaluation is successful school innovation. What remains to be considered is the degree to which this leads to what Smith would regard as 'educational change'. This is achieved when a departure from customary practices has taken hold to the point of being enduring - sustainable. Once again, the common experience of educational innovation is of momentary change that erodes as the system 'regresses to the mean' and succeeds in co-opting the innovation back into its old ways.

There are two ways of thinking about educational change in this regard - one concerns change in New Zealand schooling, the other, change in the individual schools. In relation to the second, the evidence of the school studies and our conversations with PYP Principals is that there is a mixture of circumstances that suggest the PYP innovation has sustainability. Staff changes, the initial success of the curriculum, its general agreement with the NZC and by no means least the presence of an Educational Review Office that is sympathetic to school innovation, all combine to provide a conducive context.

The latter is especially important to the New Zealand context. Punitive school inspection, as in England under OfSTED, or school inspection based on low-trust accountability is replaced in New Zealand by a school review system that is collaborative and negotiated, more developmental and tolerant of shortcoming (Lai & Kushner, 2014). This cannot be underestimated in a context where the way national school standards are subjected to teacher judgement allows considerable political space for school-based curriculum development.

We heard no evidence that suggests a temporariness to the PYP in this cluster of schools. Nor is there evidence to suggest that PYP practices are likely to revert to conventional teaching. The model of knowledge that is enshrined in the PYP seems to have found acceptance in these schools. The embededness of the PYP in a whole-school approach with committed school leaders, and within the comprehensive embrace of the IB PD and support infrastructure lends sustainability to the innovation.

In relation to educational change in New Zealand schooling we can say this. The PYP shows what can be achieved within the NZC, and the PYP schools cluster could function as a pilot for other schools, revealing the implementation challenges. The degree of freedom and support New Zealand schools enjoy for school-based curriculum development is much of what makes the PYP as good a fit as it clearly is in the school context. This concerns New Zealand's commitment to inquiry-based learning, not necessarily to the PYP in particular.

---

[21] Smith et al, (1984)

However, the evidence of this evaluation is that what the IB offers is a framework and a 'church' for the 'true believer' to relate to. It comes at a price, as suggested above. It demands a whole-school agreement which, itself, will tend to imply staff losses and changes. Financially, the PYP is an expensive option, costing upwards of $30-40k annually to service it. Whether those schools which cannot afford such sums would find the support infrastructure and professional development elsewhere is an important question. It is also feasible for other schools to learn about the challenge of an inquiry-based curriculum from the PYP, and to implement it piecemeal and not as a whole-school change. What would be lost, in this case, is the level of curriculum integration evident in our observational studies.

The PYP as an educational innovation is felt by its teachers who talk of the experience as a learning journey. To those we spoke to and observed it is a nourishing journey. Key to this is that PYP has levels of support and legitimation for innovatory intent. Colleagues provide support to individual teachers; the school provides support and cover to teachers; the PYP cluster gives support to individual schools; and the IB framework of review and professional development provides support to the New Zealand country cluster to sustain the innovatory zeal. This is an innovation *system* at the heart of which is an innovatory curriculum.

Of course, an element of this is not innovation, but 'brand protection', and this too was noticed occasionally by some teachers who felt that it was they who were carrying responsibility for brand integrity and success. The IB is a not-for-profit enterprise, but it has a substantial cash-flow and infrastructure[22]. This is a 'church' that is tolerant and encouraging of diversity, but by necessity avoiding of risks and concerned with loyalty to the brand and its image. There are accountabilities. The IB is not alone. Reggio Emilia (we will look at this system shortly), has also over time, dedicated itself to brand protection

The other side of brand protection is the importance of staying up-to-date with educational development, and this is reflected in the professional development programme. Teacher classroom inquiry (action research) is mentioned in the International Baccalaureate PD programme[23] as a response to contemporary developments in education and, though our school studies show clear evidence of teachers engaging in action research - mostly in their planning/review cycle - this is not a central feature of the curriculum, as it is, for example, in the NZC. In fact, the Professional Development programme shows a not always coherent collection of educational initiatives, almost like a Bower Bird. This, itself, signals a tolerance for experiment and diversity, but it also suggests a theme that will crop up later, that the PYP is driven by an eclectic mix of educational ideas and does not grow out of a single educational philosophy.

---

[22] With annual income of around US$180m (2014)

[23] *"In line with IB philosophy, participants will be encouraged to develop an investigative mindset, become more inquiry- based and reflective practitioners while modeling life-long learning."* IB Workshops and Resources, 2016 Catalogue, http://www.ibo.org/globalassets/professional-development/pd-catalogue-2016-en.pdf

Positioning PYP in other prominent curriculum approaches

Primary schooling has, since the time of John Dewey, been a welcoming home for student inquiry. As moral sensibilities have developed in the modern period the young child has been seen increasingly as an agent in their own learning, a person with rights. Whatever the differences in how children relate to artefacts and environment, Froebel, Pestalozzi, Steiner and Montessori, for example, saw intellectual approaches to the awakening of intellectual capabilities in children through inquiry rather than instruction - whether the child's engagement was through symbolism or realism. There were differences as to whether the enquiries were environmental and embraced the external world, or were situational and focused on the classroom. There are, having said this, contemporary shifts in the direction of instructional approaches - notably, perhaps, in the English National Curriculum which focuses on preparation for subject-based learning, itself, dominated by the universities. But these are counter-historical, and even here there is evidence of teachers trying to resist this to maintain some focus on inquiry-based learning.

For example, the Cambridge Primary Review (Alexander, 2010) is an extended and rigorous inquiry into the primary curriculum (based on 28 separate projects) and its authors concluded with a critique of instructional and disciplinary approaches, arguing for a shift to a curriculum based on 12 political and curriculum principles ('entitlement', 'equity', 'accountability', 'democratic engagement', 'respect for evidence', and so on) and expressed through eight moral and educational aims ('respect and reciprocity', 'enacting dialogue', 'wellbeing', etc.). Finally, the curriculum organisation is based on 'Domains' of knowledge"

- Arts and creativity
- Citizenship and ethics
- Faith and belief
- Language oracy and literacy
- Maths
- Physical and emotional health
- Place and time
- Science and technology

As much as the Review marks a departure (though it was dismissed by government) it is easy to see that such a scheme merely replaces one theory of fragmented knowledge with another, and retains the foundations for instructional teaching - knowledge lies in pre-specified domains which follow the logic of the teacher. The departure is in freeing up the curriculum from the stranglehold of an academic, university-oriented curriculum and restructuring it around subjects that reflect the nature of childhood and awakening. Even so, the Review says nothing about inquiry-based learning or about curriculum integration (and does not mention the IB/PYP). And it does not have the concept of 'transdisciplinary knowledge' which is, it is said, central to the PYP. Children's rights extend only so far as the right to have their needs met, and not as far as self-determination or curriculum agency. Prescription and requirement play a major role in curriculum framing (70%).

The view of knowledge given by the PYP is some distance from this. Knowledge is generated in classroom activities and the enquiries through which it is generated provide a context for subject matters. Specialist teachers, as has been noted, have to negotiate their way into the inquiry topic. The broadest principles (the Learner Profile, the inquiry base) are mandated, but within these there is space for school self-determination. The difference is between an ethical view of the world (the Review) and a moral view of the person (PYP); in the Review, knowledge areas are mandated, in the PYP knowledge is discovered. Though PYP insists upon collective action in its enquiries, it promotes an individualist view of educational quality. This is noticeable in the conversation we report with PYP young people who show themselves to be comfortable (and apparently skilled) in competitive individualism. The Review, though settling for a conservative view of knowledge, aspires to a collective and avowedly democratic ethic. Democracy does not feature in the PYP.

The Reggio Emilia school system offers a more radical alternative than the Cambridge Review. This is an inquiry-based and project-based curriculum - principally for early childhood education, but with some foray into Primary schooling, and certainly implications for it. Reggio schooling is seen as an extension of the community - its social life, its geography and its politics. In the sense given by Vygotsky, culture is the medium through which learning interactions take place, and it is only by immersing themselves in culture that the student realises their potential and their rights as members of an educational community. Similar to the Vygotskian principle, there is an integration between the psychological and the social: what the child can learn alone is less than what the child can learn together with others[24]. In the Reggio system teachers research the interests of the child and devise projects of inquiry to explore them. Teachers serve as facilitators, "collaborators", in fact. Enquiries are conducted in and with the community - parents have the status of co-collaborators.

There is a major focus in Reggio on language as a medium for the expression of autonomy and to link the psychological to the social. Here is a clue that the approach to schooling arises out of an educational philosophy. The same is true of the curriculum proposed by the Cambridge Primary review - Stenhouse, in fact, is cited as a principal theoretical source for a curriculum driven by *"principles of procedure"* . It is less clear that the IB has a theoretical or a philosophical grounding, but seems to comprise an eclectic mix of educational ideas. The IB 'Mission Statement' expresses moral rather than educational purposes: for example, "*to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect*". The IB is motivated by a social not an educational model, as we find in other inquiry-based curriculum initiatives.

The PYP shares much with Reggio Emilia, but not the emphasis on local culture[25] or language. It is more accurate to say that the culture which serves as the medium of learning is a *culture of inquiry* - less tangible than Reggio's local

---

[24] Daniels, (2008)

[25] It is interesting to speculate on this difference: that the Reggio Emilia system emerged as a response to the devastation of WW2 and has the underlying purpose of producing a new generation of enhanced moral sensibility and local cohesion. The IB was generated in a quite different context, one of international opportunity and expansionism.

community, but made tangible enough with the conceptual structure given by the Learner Profile. Its tangibility is in guiding the relationships students have with each other through the research process. Of course, research projects can and do relate to communities, but this is more accidental than designed. This is an international curriculum, and in the balance between the local and the global there is a tendency towards the global. Does the PYP fall within a Vygotskian/Constructivist frame? Yes, it does. Constructivist, not in the 'radical constructivist' sense[26] that all knowledge is provisional until it finds *"functional fit"* in the life of a student, but in the Constructivist sense that knowledge only makes sense to the student (and the teacher) when the student is involved in the process of knowledge construction - that there is a subjective element to all knowledge. In the Reggio approach this capacity for the child to construct knowledge leads to an emphasis on language and expression (both child and teacher are encouraged to document their learning through diverse mediums). PYP has the diversity of expression in their exhibitions of student work, but without the conscious, constructivist awareness of language.

The Constructivist dimension is true, also, of the NZC, though, as we have said, we have to consider as part of that national curriculum the array of policies, regulations and expectations that come along with it, and which have a tendency to reduce the constructivist element - i.e. to make knowledge more stable, predictable, objective.

A final comparison might be made between the PYP and Summerhill School, a prominent democratic school subject to the governance of its students and with no formal curriculum - a school innovation driven by a robust educational psychological theory[27]. The school (for 5 - 15 years-olds) itself is the curriculum, in the sense that the most highly valued learning is expected to take place outside of classrooms and through informal interactions. There are no curriculum principles, no learning objectives or school aims, attendance in classrooms is voluntary and not encouraged - in fact, adults can be admonished by the 'kids' for trying to impose formal discipline. There is no school uniform and the rules (there are more than 300 of them) are devised by the kids. There are no year groupings. Most of the curriculum comprises informal student inquiry into themselves, their rights and obligations, treating the student body as a microcosm of society and learning to live as a citizen. Classroom attendance is a small fraction of the conventional. The school is regarded (even by a critical OfSTED) as successful in terms of national achievement standards[28].

It has proved difficult for schools to live up to the Summerhill model which is almost certainly infeasible inside most State systems. This is not to say that there are no takers - there are schools and small school systems modelled on Summerhill in countries as diverse as Germany and Costa Rica. Classroom voluntarism itself (a central element of Summerhill philosophy) and the undervaluing of what A.S. Neill (Summerhill's founder) called "book-learning" are fundamental challenges to schools and demand high levels of commitment and forbearance. Neill famously saw himself as an educational extremist - *"you are*

---

[26] Steier (1991)

[27] Neill (1960)

[28] Stronach et al (2000)

either for the child or you are against them". Summerhill, too, has an explicit democratic intent: the school is run by a parliament of all children.

The PYP retains the classroom structure - and oddly, perhaps, conventional time periods. Through their enquiries it is anticipated that students will encounter similar challenges to work out for themselves an ethical position, though they are expected to do so within a regulated environment, and with institutional respect for the teacher role that does not exist at Summerhill. The PYP curriculum insists on a middle road between being 'for' or 'against' the child - the observational studies show contexts committed to realising children's rights, but, at the same time, these are highly disciplined environments. Even so, the Modern Learning Environment emerges as one in which the young people show the same capacity (in fact, tendency) towards self-imposed discipline, as at Summerhill. PYP emerges in this analysis as a context in which conventional assumptions about school discipline begin to break down. Summerhill is often seen as an exemplar of the view that children do not default to disorder (the *Lord of the Flies* view) but to highly regulated order, and there is evidence of this in the school studies where young people clearly thrive on self-regulated inquiry. Overlaid on this, of course, is an externally-regulated insistence on courtesy, tolerance and so on, but it seems to be less an imposed order that might break down in the absence of control, and more a tapping into that same well of self-discipline exemplified at Summerhill. PYP as an organisational innovation can be taken (we have no evidence how widespread this is) as a leaning towards school democracy which is what makes Summerhill iconic. At ANI, for example, we heard from students and teachers that student representatives are involved in curriculum planning and curriculum review meetings. This is further evidence towards the Summerhill claim that young people's capacities at these ages are underestimated, and that schooling can be placed on a more collaborative footing. Again, it is worth noting the conducive context in New Zealand where, for example, the Education Review Office is increasingly interested in and experimenting with including students as active agents in school review.

PYP in low-decile schools:

There is nothing in our data to suggest that the prevalence of PYP in high-decile schools and communities is inevitable or necessary - one of the 14 schools is a relatively low-decile school. Nothing emerges from this evaluation to suggest that aspects of the PYP would be inappropriate out of the context of a high-decile school and an internationally-oriented constituency of parents. PYP Principals were clear also in their assessment that this inquiry-based curriculum would be appropriate for schools in low socio-economic decile schools and associated intensive populations of Maori and Pasifika students.

There is, in New Zealand, a range of approaches to 'raising achievement' in low-decile schools and among Maori/Pasifika youngsters. These include acceleration, data management and cultural education programmes. What PYP offers is a curriculum solution and points towards an alternative understanding of an achievement identity for Maori and Pasifika learners in New Zealand. In a chapter, 'Maori Identities: Fixed, Fluid, Forced,' Tracey McIntosh[29] discusses three types of

---

[29] McIntosh (2005)

Maori identities within contemporary New Zealand culture. She postulates that, *"Ethnic identity makes claims about how people make sense of themselves but it also posits relationships between people and the wider world"*. She also says, *"Identities, then, by their very nature, are in a state of flux yet there is a tendency to try to apply rigid labels"*. Academic identities also may follow the trend to freeze social labels, especially those academic identities that are linked to static socio-cultural concepts of achievement and success. She proposes this distinction between identities shaped inside a cultural constituency, and identities forced upon groups from elsewhere.

While McIntosh's focuses on Maori in New Zealand society, the implications of her arguments resonate with other cultural groups, including Pacific Islanders and diverse economic cultures in low-decile schools. The implication of her argument for the purposes of this analysis is that an inquiry-based curriculum may be a means of creating academic identities that are culturally meaningful because they are conducted in the language and in the social milieu of the cultural group. The potential is for inquiry-based learning to be recast as a *whakapapa* approach in which inquiry is underpinned by the belief in the "*connectedness*" and contingent relationships of all things[30].

It may appear in our school studies that a student from a European, middle-class background might have an easier time with the culture and language of inquiry, or rather adjusting to the culture of inquiry. However, it may also be that the process of inquiry acts as an equalizer. We hear the children of the relatively well-off speaking with a self-assuredness and fluency, and some sociological views suggest that these are symptoms of the 'codes' that the middle classes have traditionally used to exclude the working classes and ethnic groups[31]. However, we may be hearing just one cultural form of fluency, a self-assuredness contingent upon this particular context. Does student agency in a research-based curriculum lead to a diverse kinds of academic fluency, a differently contextualised academic self-assuredness?

The question then becomes one of whether the Learner Profile is, itself, culturally biased, and if it is (which educational-cultural theory would say is likely) whether it can be locally interpreted to provide the same enabling framework as it does to schools embedded in the dominant culture. As we have said, the Learner Profile represents a moral ideal, and its moral universe may or may not overlap with diverse cultural and ethnic experience. It is comfortably positioned in European middle-class culture.

We make this argument tentatively, not drawing from expertise in cultural curriculum - much less Maori/Pasifika curriculum research. This analysis requires attention from Maori and Pasifika education and research specialists.

Curriculum solutions are appropriate where the problem is seen not as the failure of the student to achieve, but the failure of the curriculum to be relevant, meaningful and responsive to the student's needs[32]. Elliott (2000) proposes

---

[30] Smith (2000)

[31] Bernstein (2003)

[32] Elliott (1998), Alexander (2010), Schostak (2011)

specific criteria for adapting the curriculum to the needs of the student from whom the curriculum does evoke engagement or success:

- Contextualize the knowledge and skills to be learned by linking them to their practical applications in society and every-day life.
- Integrate the processes of acquiring knowledge and learning to use and apply it.
- Select topics and themes in terms of their relevance to pupils` lives in contemporary society.
- Select specific topics and themes to study with the aim of ensuring that their learning experiences are personally meaningful and engage them at `deeper ' levels of their being than mere `surface' learning.
- Engage pupils in an active rather than passive learning process, where they have opportunities to develop `dynamic qualities' by engaging in problem-based inquiry learning, discussion and debate, and action learning through community involvement.

The PYP meets these criteria in a way that, as we have shown, is more systematic and supported than in the NZC.

The question, here, is whether a curriculum oriented to 'internationalism' and global 'intercultural understanding' can be made relevant to the particular cultural issues in Aotearoa New Zealand - including in relation to the Treaty of Waitangi. Our two study schools were appreciative of the PYP emphasis on language learning, and both schools have Te Reo programmes. Among the topics we heard about were global issues ('caring for the planet') but researched through local projects. Here, once again, are the students talking:

One kid also mentioned being attracted by the curriculum and called it *amazing* because the curriculum *offered a chance to help the community*. All agreed that they found *student voice and student agency* to be integral part of the PYP programme.

Participant 4M: *there's a lot based in the community and trying to make the world a better place… which I think is quite a big thing… when you asked before … I chose to come to ANI- I had a lot of other choices and I went to other open days, but when I looked at the curriculum, I thought the IB structure was amazing… and it would further my learning… and I think it has.*

Researcher: *what was amazing about it?*

Participant 4M: *the fact that we could help the community with nearly everything that we learn. Nearly every opportunity with our learning we take the next step to help the community. For example, there's a group within the school that was in charge of making a new park with Uni students, there's a park that just over there- Nicholson park-*

Such expressions of PYP experience resonate with the OECD/ENSI (*Environment and Schools Initiative*) which has been a prominent experimental ground for what

has been called 'the inquiring school'[33]. In ENSI, models were developed that involved schools working on commissions from local communities to understand better environmental issues and to frame solutions to them. PYP as it is practiced provides a good example of how global understanding can only be achieved through local insight.

One of the early theorists of the interaction between minority culture and school achievement was Fred Erickson. Dismissing 'deficit' explanations (e.g. students of minority cultures do not have the language/career aspiration/family support to achieve) he focused on curriculum perspectives[34], principally the issue of *"cultural communication"*. He saw cultural differences (between student and teacher) as places of *"risk"* - places where tensions and misunderstandings can occur. Risk is to be confronted with pedagogical relationships of *"trust"*, by which he meant mutual tolerance, the restraint of authority and a joint commitment to forge a conversation.

The observational studies demonstrate some capacity in PYP for this approach to pedagogical 'trust' – indeed, 'trust' emerges as a way of characterizing pedagogical relationships. The students are taking risks in their inquiries – not least in entering into the conceptual challenge of learning methodologically. We can see this in the shift from disciplinary (in both senses) authority to 'teacher as a resource', and the coincidence of student inquiry with teacher inquiry. Interactions we observed between teachers and students were pedagogical, but within a conversational (not didactic) mode. In fact, we might say that the PYP qualifies as a 'conversational curriculum'[35]. A conversational curriculum allied to a sharing of control over knowledge may be a means for the negotiation of cultural difference and inter-cultural understanding.

Once again, we reiterate that this is not infeasible under the NZC, and there are examples of such work in New Zealand. What is distinctive about the PYP experience is the infrastructure, legitimacy and support provided as a resource for school-based curriculum responses, and the whole-school approach to innovation. It remains for the PYP school to use the resource to shape its own response to the culture/economy/achievement tensions.

---

[33] Posch (1991, 1994), Elliott (1998)

[34] Erickson (1987)

[35] Schwab (1970)

APPENDIX ONE: Summary table of comparisons between PYP and NZC curriculum intentions

Key curriculum intention terms from IBPYP learner profile	Same term present in NZC equivalent section (Vision)	Similar term present in NZC equivalent section (Vision)	Term absent in NZC equivalent section (Vision)	Same term absent from Vision section but present in NZC alternative section	Same term absent from Vision section but similar term present in NZC alternative section	Term absent from NZC altogether
Creative expression	*					
Knowledgeable	*					
Concepts/ideas	*					
Thinkers	*					
Critical thinking	*					
Creative thinking	*					
Communicators	*					
Confident expression	*					
Variety of communication modes	*					
Effective/willing collaboration		*				
Sustained learning		*		*		
Responsibility for actions and consequences		*		*		
Cultural appreciation		*				
Internationally minded		*				
Common humanity		*				
Shared guardianship of the planet		*				
Help to create a better and more peaceful world		*				
Initiative		*				
Open to perspectives/values/traditions of others		*				
Act to make a positive difference to the lives of others and to the environment.		*				
Open-minded			*	*		
Inquirers			*	*		
Curiosity			*	*		
Inquiry/Research			*	*		
Independence			*	*		
Enjoyment/love of learning			*	*		
Issues - local global significance			*	*		
Broad/balanced/range of disciplines			*	*		
Problems			*	*		
Reasoned-ethical decisions			*	*		
More than one language			*	*		
Integrity			*	*		
Honesty			*	*		
Fairness			*	*		
Justice			*	*		
Respect for dignity of individuals/groups/communities			*	*		
Empathy			*	*		
Respect towards the needs and feelings of others			*	*		
Reflective –thoughtful consideration			*	*		
Risk-takers			*		*	
Seek/evaluate range of points of view			*		*	
Caring			*		*	
Assess and understand their strengths and			*		*	

limitations						
Principled			*			*
Willingness to grow			*			*
Compassion			*			*
Personal commitment to service			*			*
Approach unfamiliar situations and uncertainty with courage and forethought,			*			*
Independence of spirit			*			*
Brave and articulate in defending their beliefs.			*			*
Balanced - intellectual, physical and emotional balance						*
Total:	9	11	31	21	4	8

APPENDIX TWO: Raw data on progress and achievement of PYP students

[attached]

APPENDIX THREE: PYP Meeting Waiheke 28/8/2015 Evaluation Questions and Answers

At a PYP schools network meeting on Waiheke Island (Auckland) the evaluation ran a workshop asking PYP people to respond to a series of questions that had arisen in the course of the evaluation. Responses were recorded directly onto a Google Drive and made available to the evaluation for open publication. Here are the questions and answers, edited only to remove responses that were not immediately clear. Some of these responses contradict each other. This is because there were differing views across groups. Much of the comparison, for example, between PYP and NZC is a matter for personal interpretation and experience.

Do you look in different ways or in different places for *educational quality* in PYP as compared with the NZNC?

Opportunity is greater in PYP than NZC because of PD and network opportunities. Collaboration between PYP teachers is strengthened. National standards - an outside measure or assessment which does not fit with PYP, but for independent schools not a big impact.
Both, to get different perspectives. It's more authentic and well rounded as NZC has been heavily directed by National Standards. Starting from a philosophical position as opposed to curriculum.
-They are seen as merging together rather than two separate documents. -The PYP is merely a framework and structure that provides consistency. - The PYP channels thinking and draws out focus. Left alone with NZC the inquiry is too

broad. The themes help to target the teaching at each year level.
We use the PYP to deliver the NZC. As the two are aligned we use all feedback to reflect on both at the same time.

Do PYP and NZNC have the same view of educational success?

Yes. PYP is potentially more focused, detailed - where as NZC leaves opportunity for schools to develop their own.
In essence they do.
PYP and the NZC document have a very similar, holistic, inquiry based view. However, as the NZC encapsulates the National Standards we feel that that is drives the NZC to be more data/ curriculum focused.
No. (Not from the experience of evaluation). PYP looks at the holistic child. However, the two together keep you focused on the whole child and include the inquiry model. (This is not including the national standards). Standards are about judgement where other assessment is standardised assessment. "educational success" - talking academic achievement - what is educational success? - Children articulate their thinking - Looking at the individual child. - Children finding their place in society. - Progression over time verses a set measure of success. Success is more than the standardised pass. The Trans skills - equipped children for their next stage of learning. They will then be accessing knowledge that is appropriate to them. NZC - encourages learner knowing where they are at. Student advocacy. Both direct the learning of the whole child (global learner/curriculum vision, key comp & principles), however, academic achievement expectations differ greatly.
PYP and the NZC are aligned. Because of the close alignment between the NZC and the PYP it is easy to work with both. There is tension is between PYP/NZC and the National Standards. This is because the National Standards narrow the curriculum. How the National Standards are expressed, their intended purpose, how the data is collected and reported does not align with the PYP. National Standards result in a focus on reading, writing and mathematics. This is a mismatch with the transdisciplinary nature of the PYP.

Do PYP and NZNC have the same view of educational failure?

Yes. Work well together. Needs of the learner focused / central to both.
No
As above, the NZC and PYP as a whole is about active life long learners etc. However the NZC, combined with National Standards it does highlight failure. The National Standards can be viewed online almost as league tables.

Do students have the dispositions of their backgrounds affecting the decile rating of the school? What they bring into the class does not affect this educational success or failure. PYP is diverse enough to tailor to the needs of your school.
Throughout the PYP, success and failure is shared collectively by the school. For example the school may not meet a standard or practice. For the student, growth is continual in both the NZC and the PYP. Failure is identified through the national standards.

Does the PYP make particular demands on School Review in terms of seeking out quality, success and shortcoming?

Easier for school review. Framework which is constantly reviewed and evaluated. PYP strengthens the process.
It enhances school review. Promotes self reflection of "what we do"
More specific, Evaluation process is demanding and the inclusion of self-study really is focused on learning, teaching etc. The process is very clear and must be planned in advanced.
It certainly does as it encompasses both standards and practices. Repetitive. Rule driven. It has a formula and does not waver. ERO looks at achievement.
For some the PYP process/review was much more rigorous than the ERO experience. There is real value in the process of self-review required alongside an evaluation visit. ERO may follow a similar pathway but not seen as rigorous. ERO is looking for evidence of successful self-review by the school. ERO focuses on the nationally identified 'target' groups. ERO is moving toward a more inquiry-based model of review. Neither may look closely at student achievement outcomes? In the end, the power is in the self-review in advance of both experiences. Both increase the priority of this process.

Is there a class-size beyond which an inquiry-based approach struggles to be effective?

Haven't found it! Is dependent on the teacher - but generally no. Inquiry based learning should be effective in any classroom if done well. More students can be more open to more ideas and creative thinking.
from experience the process with 75 students and 3 teachers furthered the inquiry rather than stifled it. The reverse might be an issue.
We felt that the teaching pedagogy was more important than class size. It could struggle to be effective with younger students, if there were too many students or not enough students.
Yes in terms of burn out. No if in a modern learning practice model.

What role does teacher inquiry play in PYP?

It drives it! Critical that the teacher is an inquirer. Integral. Teacher is reflective and adaptive to learning as you go. Reflective framework in bubble planner. Letting got the 'power' PD is teacher inquiry.
huge, self reflection. Shouldn't be asking kids to do things that teachers won't. It's a constantly developing.
Teaching as inquiry is huge! Teachers need to model what they are teaching, it also gets you into the mental mind space. Teachers using the same model as students.

Does PYP have something in particular to offer to Maori/Pasifika students?

Holistic style of learning - tailor the inquiries to fit the context of the students. Fits better than a traditional style of teaching for these cultures.
Gives students to develop cultural capital. It brings wider range of connections to community from school. The link between NZC and PYP allows the link between student life.
Allows for all students interests. Success for Maori as maori, clear links for Maori within all units of inquiry. It's about connection - a key concept. The language policy, can promote Te Reo Maori and Tikanga Maori. Develops a sense of self/ sense of belonging within all elements of the PYP.
PYP/inquiry/transdisciplinary programmes are examples of evidenced based quality pedagogy, therefore are supportive of all learners. The conceptual nature of the PYP allow all learners to engage in a meaningful way. The transdisciplinary nature of the PYP encourages a close homeroom teacher/learner relationship which is also proven to be key to the success of Maori and Pasifika students.

Is PYP equally suitable for the low-decile school? Is it *especially* suitable?

Yes - suitable for all learners! It is expensive....and ongoing costs...
The international mindfulness scope is the issue. Taking into account the experience of your students would develop your view of how the learning is scoped.
Yes we believe that it would be suitable, challenging, relevant.
Aside from the cost barrier, why wouldn't it be?

What are the particular characteristics of teacher leadership in a PYP school?

Collaboration - distributed leadership.
continual growth

reflection hunger for learning tenacity in development focus on kids and learning world view big picture thinker but be able to fill in the dots finding the reason why we have boxes to fit in (constraints) concept driven
Informed Open-minded Display the Learner Profile themselves. Integrated (Transdisciplinary) Not set in one lens See the big picture (Vision - holistic).

Is PYP suitable for an outcomes-based curriculum?

Skills based and concept based curriculum. Not an outcomes based curriculum! Guided inquiry where needed to support the learner.
skills vs knowledge as an outcome essentially the national standards driven outcome make the learning more robust

What aspects of the PYP curriculum might benefit from further development?

The planner!!! Flexibility in planner! Consistency in messages in workshops and PD. Up to date PD. Head Office to give back - potentially to offer PYP to a lower decile school and offer a 'scholarship' for training and workshops.
Aspects of the technology are highly valued part of NZC, especially in intermediate schools. This could enhance science. Continued growth and focus on concepts, particularly related concepts. Re-think how PYP could look in NZ schools, we are a very different schooling model.
Less standards and practices. Less repetition. 5 units of inquiry - not 6. (Choice and selection for schools). Financial support for Smaller schools combining to allow for PD.
The concept of additional languages in the PYP needs further support and exemplars. The development of clearer development stages and how to support learners to further develop their skills and knowledge in additional languages eg. the pedagogy and content of teaching additional languages.

Are there any other questions we should be asking/any message to take back to Singapore?

tips on online environment wider range of exemplars to support planning
The isolation of schools not part of the cluster of schools. (e.g south island verses Auckland schools)
We would be interested to find out more about the unique features of the NZ context. Are there other contexts that have as many schools engaging in IB educations alongside the requirements of a national curriculum and regulations. What impact does this have on how the PYP looks and works in NZ schools?

References

Alexander, R. (Ed.) (2010) *Children, Their World, Their Education*, Final report and recommendations of the Cambridge Primary Review, Esmeé Fairbairn Foundation and London: Routledge

Bernstein, B. (2003). *Class, codes and control: Applied studies towards a sociology of language* (Vol. 2 - Reprinted from 1973). London: Psychology Press.

Daniels, H. (2005). *An introduction to Vygotsky*. London: Psychology Press.

Denny, T. (2015) 'Storytelling and educational understanding' in J. Russell, P. Greenhalgh & S. Kushner (Eds.) *Case Study Evaluation: Past Present and Future Challenges*, pp.21-41

Elliott, J. (1991) *Action Research for Educational Change*, Milton Keynes, UK: Open University Press

Elliott, J. (2000). Revising the national curriculum: a comment on the Secretary of State's proposals. *Journal of Education Policy*, *15*(2), 247-255.

Elliott, J. (1998). *The Curriculum Experiment*. Buckingham: Open University Press.

Erickson, F. (1987). Transformation and school success: The politics and culture of educational achievement. *Anthropology & Education Quarterly*, *18*(4), 335-356.

Fox, E. (1985). International schools and the International Baccalaureate. *Harvard Educational Review*, *55*(1), 53-69.

Gough, A., Sharpley, B., Vander Pal, S., & Griffiths, M. (2014). *The International Baccalaureate Primary Years Programme (PYP) in Victorian Government Primary Schools, Australia: Final Report.* Royal Melbourne Institute of Technology, Victoria, Australia.

House, E (2013) *Evaluating with Validity* (2nd Edition) Thousand Oaks: Sage

International Baccalaureate Organization. (2008a). *International baccalaureate primary years programme exhibition guidelines* Cardiff.

International Baccalaureate Organization. (2008c). *International baccalaureate primary years programme science scope and sequence*. Cardiff.

International Baccalaureate Organization. (2008e). *International baccalaureate primary years programme social studies scope and sequence*. Cardiff.

International Baccalaureate Organization. (2008g). *The primary years programme: A basis for practice*. Cardiff.

International Baccalaureate Organization. (2009a). *International baccalaureate primary years programme arts scope and sequence*. Cardiff.

International Baccalaureate Organization. (2009c). *International baccalaureate primary years programme language scope and sequence*. Cardiff.

International Baccalaureate Organization. (2009e). *International baccalaureate primary years programme mathematics scope and sequence*. Cardiff.

International Baccalaureate Organization. (2009g). *International baccalaureate primary years programme personal, social and physical education scope and sequence*. Cardiff.

International Baccalaureate Organization. (2009i). *Making the pyp happen: A curriculum framework for international primary education* Cardiff.

International Baccalaureate Organization. (2010). *The primary years programme as a model of transdisciplinary learning*. Cardiff.

MacDonald, B. & Walker, R. (1976) *Changing the Curriculum*, London: Open Books

MacDonald, B., & Walker, R. (1975). Case-study and the social philosophy of educational research. *Cambridge Journal of Education*, *5*(1), 2-11.

McIntosh, T. (2005) 'Maori identities: Fixed, fluid, forced.' In Liu, J., McCreanor, T. McIntosh, T. Teaiwa, T. (Eds.) *New Zealand identities: Departures and Destinations* Wellington, NZ: Victoria University Press, pp. 38-51.

New Zealand Ministry of Education. (1993). *The New Zealand Curriculum Framework*. Wellington: Learning Media.

Ministry of Education. (2007). *The New Zealand curriculum* Wellington: Ministry of Education.

Neill, A.S. (1960) *Summerhill: a Radical Approach to Child* Rearing, London: Hart

New Zealand Ministry of Education. (1993). *The New Zealand curriculum framework*. Wellington: Learning Media.

Posch, P. (1991) *Environment and School Initiatives: background and basic premises of the project in Environment, Schools and Active Learning*, Paris: OECD/CERI

Posch, P. (1994) `Changes in the culture of teaching and learning' in *Educational Action Research: an International Journal*, 2(2), 153± 61.

Sannino, A., & Nocon, H. (2008). Special issue editors' introduction: Activity theory and school innovation. *Journal of Educational Change*, *9*(4), 325-328.

Schostak, J. F. (2011). *Maladjusted Schooling* London: Routledge.

Schwab, J. J. (1978). The practical: A language for curriculum in I. Westbury & N.J. Wilkof (Eds.) *Sciencve, Curriculum and Liberal Education: Selected Essays*, Chicago: Univ. of Chicago Press, pp. 287-384

Scott, D. (2008) *Critical Essays on Major Curriculum Thinkers*, Chapter 3, 'Lawrence Stenhouse and the process curriculum', London: Routledge pp. 31-41

Sinnema, C., & Aitken, G. (2013). Emerging International Trends in Curriculum. In M. Priestley & G. J. J. Biesta (Eds.), *Reinventing the Curriculum: New Trends in Curriculum Policy and Practice*. London: Bloomsbury Academic

Skilbeck, M. (1990). *School based curriculum development*. Londeon: SAGE

Smith, C. W. I. T. R. (2000). Straying beyond the boundaries of belief: Maori epistemologies inside the curriculum. *Educational Philosophy and Theory*, *32*(1), 43-51.

Smith, L, Keith, P.M. (1971) *Anatomy of an Educational Innovation: an Organisational Analysis of an Elementary School*, NY: Wiley

Steier, F. (1991) *Research and Reflexivity*. London: Sage

Stronach, I., J. Allan, B. MacDonald, S. Kushner, and H. Torrance. 2000. *Report on the evaluation of Summerhill School.* Manchester: Manchester Metropolitan University for Nuffield Foundation

Weber, R.P. (1990). *Basic content analysis* (2nd ed.). Newbury Park, CA: SAGE.

Whitla, D. Hanley, J.P. Moo, E.W. Walter, A. (1970) Man: a Course of Studies - Evaluation Strategies, Washington, DC: Curriculum Development Associates