

Sabbatical Inquiry

How are alternative schools in the USA (eg New Tech Schools) developing a Project Based Learning approach with senior students which could assist Rolleston in embedding our Reggio-inspired emergent curriculum at Years 7 and 8?

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Acknowledgements

The fact that a principal on sabbatical is encouraged to spend 50% of their time on their chosen study proposal, and the remaining 50% on “reflection and refreshment” is an opportunity that all principals in today’s schools should grasp with both hands.

Our schools have become more and more complex over the last 10 years and the associated challenges have the ability to deplete our personal resources unless they are managed effectively. A sabbatical is one way of doing this and I would counsel all of my colleagues to consider this option if they haven’t already.

My thanks to the Ministry of Education and NZEI for their combined foresight and wisdom in establishing this award as part of the Principals’ Collective Agreement.

Rolleston School is still one of the fastest growing schools in the South Island, and one of only a handful growing at this rate in New Zealand. Often, the day to day demands of leading and managing this school, and the need to attend to the immediate needs of children, staff and parents prevent me from spending quality time thinking through, reading about and reflecting on curriculum and pedagogical issues which I am passionate about.

The opportunity to visit schools, engage with other principals in discussions about innovative practices, share and reflect on my own experiences and practices, view programmes in action, and investigate and research PBL for Year 7&8 students has enhanced my own professional leadership practice and, will in turn, inform and enhance that of my staff in the senior Kahikatea Team.

I would like to express my gratitude for the support offered to me by the Board of Trustees of Rolleston School which enabled me to accept this special opportunity.

I would also like to thank the many people who provided access to their schools, and time to answer my questions including:

- Karen Gordon, Amanda Stewart and the Staff and children of Ventana School – Los Altos
- Gretchen Vice and the Staff and children of the Advent School – Boston
- Dawn Williams and the Staff and children of the Blue School – New York
- Randy Hollenkamp and the Staff and children of Bulldog Tech – San Jose
- Aaron Brengard and the Staff and children of Katherine Smith Elementary School – San Jose

And finally, but by no means least; thanks to my wonderful staff at Rolleston School for keeping things running so smoothly in my absence and allowing me this special time away.

Background & Purpose

My idea for this project began when I was discussing with some of the staff teaching Y7-8, the challenges of implementing Reggio-inspired emergent curriculum at the senior level of our school.

Emergent curriculum is one of the cornerstones of Reggio-inspired practice which we have been exploring together at Rolleston since 2009.

My previous sabbatical report from 2009 outlines our interpretation of emergent curriculum practices which are not discussed in depth in this report. They are however one of the drivers behind this exploration of PBL because of the need for flexible timetabling.

In the last nine years we have successfully developed our own interpretation of the work being done by educators in Reggio Emilia in Northern Italy. Throughout we have been very conscious of the comments made by Howard Gardner that it would be foolhardy to think that any school or community could simply “transplant” the Reggio pedagogy into their environment. Rather, they would have to adapt what they saw as useful in the Reggio model, to fit their unique communities and circumstances. We believe that we have done this and in doing so, enhanced both the engagement and educational outcomes of our students.

We have been privileged to share our learning with hundreds of educators who have visited Rolleston to view our work and engage in professional dialogue with our staff.

Working with emergent curriculum relies heavily on teachers having the freedom to seize moments in the day which will allow project work to develop, and new understandings to be reached. At Rolleston staff have the freedom to do this. In fact they are expected to!

If we are to encourage pupil agency and engagement we must allow them to be the leaders in deciding contexts for learning. As teachers our job is mentor and guide. To work alongside the children as avenues for exploration develop and change.

At Rolleston we talk of following the compass not the road with our children. We avoid the road (unit planning) which is well worn and predictable and where the passengers sleep while the driver drives and the trip takes an hour. Instead we prefer to travel cross country, using the compass and navigating together, finding new pathways and exciting vistas around each corner; and the trip may take a day, or three days, or even weeks or months!

This way of working resonates strongly with the idea of moving away from a culture of standardisation, conformity and a linear approach to learning; towards education which values the unique potential of every child to see think and wonder about their world and to participate in it!

As mentioned previously we expect staff to allow themselves and their children *the gift of time* to navigate through a project. This can mean that on any given day project work may dominate the work being done; perhaps for the whole day. By working in this way we allow children’s enthusiasm to power the learning.

This has been one of the biggest challenges raised in discussion with Y7-8 staff.

The concerns raised were mainly around two key areas:

1. Overcrowded curriculum
2. Outside demands on time

So how could we continue working with the principles of Reggio-inspired practice at Y7-8 given the time challenges inherent in working with emergent curriculum? It was this question which formed the basis for my investigation into PBL – Project Based Learning, as seen in the network of New Tech Schools in America.

This was not a clinically designed research project about PBL as such. The format of this report is of a more informal nature. It is a **collection of ideas** and **impressions** resulting from visits and conversations different groups. It is also a set of **reflections** on how these ideas might better serve the needs of our Y7-8 children at Rolleston.

I chose to explore these ideas in several ways.

1. Readings with a focus principally on current literature from America including:
“A Review of Research On Project-Based Learning.” John W. Thomas Ph.D March 2000.
“Overview of Problem-based Learning: Definitions and Distinctions” John R. Savery Interdisciplinary Journal of Problem-Based Learning
“Project Based-Learning.” Joseph Krajcik, Phyllis Blumenfeld: Ch19 Cambridge Handbook of Learning Sciences
“Motivating Project-Based Learning: Sustaining the Doing, Supporting the Learning.” Blumenfeld, Soloway, Marx, Krajcik, Guzdial & Palincsar : University of Michigan.
2. Visits and professional discussions with educators in a range of American schools exploring Reggio-inspired or PBL practices with senior students. These included: The Blue School – New York, The Advent School – Boston, Katherine Smith Elementary School and Bulldog Tech – San Jose and Ventana School – Los Altos.

Rationale & Background Information

Early in 2016 our cluster combined for some PD with SCIL (Sydney Centre for Innovation and Learning). The focus of this work was personalising learning. Steve Collis shared some amazing ideas with us which had strong links to Project Based Learning.

During the presentations it soon became apparent that many of my staff members were seeing links between the presentation and our Reggio-inspired work at Rolleston, with particular reference to our belief that learner **agency** will develop when children are involved in the whole learning process - including decisions about the curriculum itself, involving learners a lot more in the choices about the *what* as well as the *how* and the *why* of what is being learned.

It was my recollection of these conversations with staff following our work with SCIL that led me to consider exploring PBL as a possible answer to the questions about overloaded curriculum and time restraints, raised by my Y7-8 teachers.

It occurred to me that the more structured approach of PBL, with an end goal set from the start for students, might be easier to manage than the very “seize the moment” approach we are encouraging teachers to take currently.

What is PBL?

My initial research into what appeared to be a simple question to answer proved to be anything but simple. It soon became apparent that this is a question which has no simple answer since there is a diversity of defining features and no universally accepted model or theory of Project-based Learning. Consequently the variety of practices occurring under the banner of PBL made it difficult to assess what is and is not PBL.

Faced with this dilemma I needed to find some descriptors which most “PBL” practices had in common. All of the models looked at had the following basic defining features:

- organised learning around projects,
- projects are complex tasks, based on challenging questions or problems,
- involved students in design, problem-solving, decision making, or investigative activities;
- gave students the opportunity to work relatively autonomously over extended periods of time;
- culminated in realistic products or presentations

John W. Thomas in his “Review of Research On Project-based Learning” lists five criteria that must be met before a project can be considered as an example of PBL : **centrality** (projects are central to the curriculum – they are the curriculum), **driving question** (which drives students to encounter and struggle with the central concept), **constructive investigations** (involving inquiry, knowledge building and resolution), **autonomy** (projects are student-driven to some significant degree), **realism** (projects are realistic and not “school-like”, they have authenticity for students).

American NTN (New Tech Network) schools I visited were all bound by the requirement to meet local standards. Planning to meet these standards provided “academic rigor” for them and their communities. It appeared that teachers had a significant amount of control over the learning process because of this.

The NTN of schools had a significant on-line presence which enabled me to view videos and read about the principles behind their work. They had a very clear idea of what made PBL in their schools. It was these schools that I visited to look at PBL more deeply.

From the outset I could see that these schools had a clear vision for what PBL should look like. The language used by teachers and children and the approaches followed were strongly aligned with one another. (*See appendix)That said, each school had its own unique characteristics and community and the outcomes for children, and the artifacts they were producing, were authentic to each school and their learners.

The teachers in these schools truly believed that they were setting their students up to be “college bound”. They worked as coaches and instructors as they helped students towards the specified end goal / product.

A rigorous process was followed with benchmarks throughout. Pupils are required complete these benchmark activities before their group could proceed to the next section of the project inquiry. (#See appendix)

This overview from the NTN Schools summarises the keys to PBL in these schools.

Teaching that Engages

Multidisciplinary PBL is the primary mode of instruction at all grade levels.

- Projects are standards-based and focus on a broad range of learning outcomes. Projects are often grounded in social studies and/or science standards.
- Projects have a meaningful purpose for students and are tied to the community when possible.

- Scaffolding within projects is developmentally appropriate and supports individual student needs. Students spend time in both heterogeneous and homogenous groups.

Literacy is cross-curricular and integrated into the context of the project.

- Literacy instruction supports content instruction and vice versa.
- Reading and writing instruction are incorporated into the context of the project.
- Foundational literacy skills are taught alongside the project and integrated within the project when applicable.

Math is inquiry-based.

- Learning is focused on reasoning and sense-making through open-ended math problems.
- Students have regular opportunities to collaborate and engage in discussions about mathematical concepts.
- Numeracy is reinforced in projects (number awareness, looking for patterns, making sense of data, interpreting graphs / diagrams); skills and concepts are connected to projects when applicable.
- Skill development is reinforced through guided and independent practice.

Assessments guide student learning and instructional decisions.

- Schools have a balanced assessment system that focuses on assessment of both basic skills and a broader range of student outcomes.
- Projects include a range of assessments, including curriculum-embedded performance tasks and peer and self-assessments.
- Assessment practices, such as student-led conference, portfolios, and exhibitions support student agency.

Culture that Empowers

The school staff engages in continuous learning and improvement.

- Staff actively collaborate around the vision and mission of the school and use inclusive decision-making practices with key stakeholders.
- Grade level teams work in collaboration with support staff in project design and analysis of student work to inform instructional decisions.
- Schoolwide structures for adult learning include daily shared planning time for teams and regular staff meeting time.

Students engage in a collaborative learning culture centered on trust, respect, and responsibility.

- Students actively collaborate on projects and build positive relationships with peers and staff members. Students have opportunities to work within diverse groups.
- Students have voice and choice in their learning.
- The school proactively supports social-emotional growth within the context of the learning.

Technology that Enables

Technology is a tool, not a focus.

- Students use technology to enhance and support their learning, including using tech tools to create, communicate, collaborate, and investigate.
- Upper grade levels have a 1-1 device/student ratio and actively use NTN's online learning platform, Echo.
- Lower grade levels have regular access to devices to support their learning. Often devices are used to support learners in centers and small group instruction.

- Schools actively work to monitor screen time and ensure technology use is developmentally appropriate.

Many of the descriptors above resonate with aspects of our Reggio-inspired work.

Questions and Dilemmas

In looking at PBL for Y7-8 I was faced with the dilemma of wanting to retain the things we value about Reggio-inspired practice, while providing a little more structure that would fit into busy timetables and demands on time.

Initially I felt that PBL having an end product / point in mind ran counter to our Reggio-inspired work. This was an issue for me.

If I encouraged PBL in our senior levels, would I take away the “compass” and exchange it for the “road”?

PBL teachers in America plan from the outset to incorporate required standards; they structure the project to provide students with the opportunity to achieve these standards. Whereas at Rolleston we believe that predetermining outcomes using AOs which decide “what children **will** learn” stifles creativity. Instead we prefer to reflect on the emerging curriculum and to back map the coverage of AOs which spring naturally from the project work.

From my observations of teachers in NTN schools there was no use being made of documentation by teachers or students other than the artifacts produced by the children. The process of making thinking and learning visible for students, teachers and parents is central to Reggio-inspired practice. Its use as a reflective tool for students and teachers during project work is critical to project development.

Having thought these issues through it became apparent that my teachers could use aspects of PBL while still retaining many of the core principles of Reggio-inspired practice.

PBL & Reggio Possibilities

PBL projects could still spring from **listening to children** and developing authentic problems for them to grapple with which interest and engage them. At the senior level, and with support, children can be responsible for the creation of both the question and activities and well as the nature of the artifacts they produce to demonstrate their new learning.

Setting an end goal / product does not mean that there is only one way to achieve it. **Children will still have agency** and a voice in key aspects of the work.

Within PBL the **image of the child** which is fostered is still that of a uniquely capable and thoughtful human being who has theories about their world which can be tested and developed within a collaborative process.

Having the end goal in sight may allow teachers at Y7-8 more control of time pressures as sessions can be timetabled rather than occurring when and as the children’s enthusiasms dictate within our current Reggio-inspired practice.

Providing many **opportunities for children to represent their ideas in a variety of ways** and to use knowledge gained to create artifacts is synonymous with the idea of the **100 languages** espoused by Malaguzzi. These artifacts in a PBL setting are representations of students’ problem solutions that reflect

emergent states of knowledge. This notion of learning by doing, the roots of which go back to Dewey, sits well with Reggio-inspired practice.

The teacher's role as **fellow learner and guide** can be maintained within a PBL framework. Within this framework errors are seen as stepping stones to new learning. "It is essential that teachers create environments that promote motivation to learn and encourage inquiry, risk taking, and thoughtfulness by minimizing ability related information and focussing on learning, not performance." (Bloomfield et al – "Motivating Project-based Learning.")

Teachers can **document student learning** within PBL projects as an additional reflective tool for clarifying progress towards the desired outcome.

At this senior level of our school **children can become documenters of their own learning** during the process. In PBL this may include, journals, notebook entries, interviews all of which are forms of documentation and also informal measures of pupil understanding (assessment).

The **classroom environment can still be set up as the third teacher** within a PBL project. Apart from the physical set up, and the offering of **provocations** to stimulate student thinking, the climate of the class can promote inquiry, questioning and debate as opposed to correct answers and competition.

What will the benefits be for our children?

I wrote this list in 2009 when I returned from Reggio Emilia. Reflecting on it now through a PBL lens I am delighted to see that many of the benefits I identified then have relevance today.

- Their natural interest and enthusiasm for their world will be enhanced
- They will be given the time to make their own sense of things rather than rushing onto the next unit.
- They will become active protagonists in their learning and through this learn from others and co-construct new meaning.
- They will see many possibilities in any situation not rote or pat answers, and because of this they will develop a richness of expression.
- They will engage with the wider community and their world.
- They will have an enhanced sense of belonging to their community.
- They will develop self-confidence and be heard.
- They will enjoy their learning

What will be the benefit for parents?

1. They will see their children well prepared to move from our school to high school ready to engage with curriculums which are designed to promote collaborative learning and links to real world problems as outlined in the prospectus of Rolleston College our local high school:

"Connected curriculum involves students in negotiating and setting the curriculum with their teacher. This may start rather modestly, with students suggesting activities within a study, or be more substantial, such as students taking a role in co-planning, exploring and evaluating a study. Connected learning is driven by 'big ideas' rather than specific content. These include ethical dilemmas, weighing up evidence and argument, exploring ways to preserve the past and educate for

the future, rebuilding a country or an environment, and instigating a social action project.” (Rolleston College Prospectus)

- They will see visible evidence of their children’s learning journey in the documentation done by teachers and the artifacts and presentations the children produce.
- They will enjoy their children’s contribution to their wider community.

What will be the benefit for teachers?

The teacher’s role and belief system is critical to any teaching work they undertake. These, and the quality of teaching, are the cornerstones of success for children. Teachers do make the difference, one way or the other.

If teachers truly embrace these constructivist approaches to working with children they will surely find more joy in their work.

With the removal of national standards we have been given a wonderful opportunity to re-claim the national curriculum document in its totality, and to provide children with rich meaningful learning experiences that explore contexts through the breadth and depth of the curriculum.

Both PBL and Reggio-inspired practices provide children with the opportunity to become protagonists in their learning. In fostering this teachers are creating a setting where they can maximise their own potential and enjoyment of this complex craft we call teaching.

Conclusions

Any well-grounded constructivist approach to teaching has the potential to allow children a voice in their learning. Allowing children to be active participants increases their engagement and ability to power the learning. The challenge for the teacher is then to capture the enthusiasm and work with the children.

My brief venture into the world of PBL leads me to believe that this approach has the capacity to engage and stretch our Y7-8 students at Rolleston School.

There are enough synergies between Reggio-inspired practice and PBL for us to consider exploring the use of a more structured approach such as this at the senior level of the school. Its links to constructivist approaches means that teachers already working in this way will have few difficulties in adapting to PBL.

The time constraints mentioned by staff that needed to be addressed can be managed more effectively with an end point for the project in mind. It is crucial however that the principles of Reggio-inspired practice, which start with children aged five at Rolleston, are kept at the forefront of teachers’ thinking so a blend of the two approaches can evolve.

References

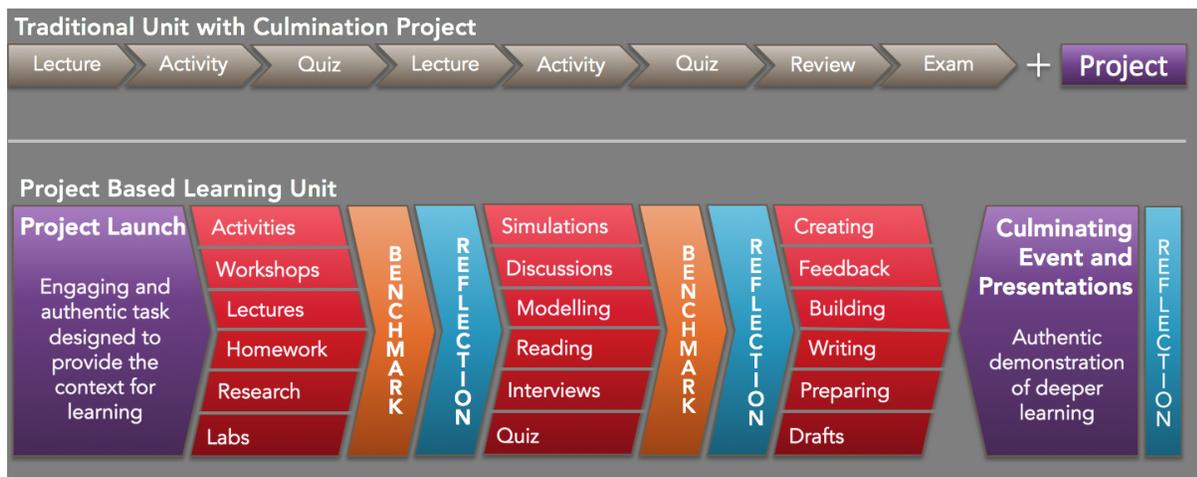
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4. Rolleston College Prospectus
5. Katherine Smith Elementary School – PBL Glossary
6. www.newtechnetwork.org

Incidental Reading

7. Articles from the George Lucas Educational Foundation - Edutopia
8. Various articles from the Buck Institute for Education

Appendices:



PBL Glossary

Deliverables- (n) Major and minor products that students will need to produce throughout the project.

Example: students will create a Keynote presentation to be presented to an audience

Driving Question (DQ)- (n) A question that is posed to the class that drives the project; it is presented early on in the project to get students to start thinking about what they will need to know and do to complete the project and its tasks.

Example: "What can we do as wildlife rehabilitators to create a habitat for local sick and injured raptors?"

Entry Event- (n) An engaging way to introduce or build background knowledge to begin a project.

Example: Second grade students went on a field trip to the Tech Museum to get excited about doing a project that involved building and creating simple machines.

Inquiry- (n) Looking in depth at something related to the classroom project; students use the inquiry process to learn new information on their own without being directly taught.

Example: when students wanted to learn about the elements of a business letter, teachers provided sample letters that students reviewed and discovered themes and trends

Need to Knows (NTKs)- (n) A list of student generated questions they want/need to know in order to answer the Driving Question and complete the project and its deliverables

Example: What is a raptor? What materials will I use to build a simple machine?

Project Based Learning (PBL)- (n) An innovative teaching strategy that keeps the end in mind; Teachers who are PBL teachers do not teach skills in isolation and then ask for a product at the end to show learning, instead they develop a project that integrates a variety of skills that are needed to demonstrate deeper learning and apply 21st century skills.

Public Audience- (n) A group of people, either from within the school or its surrounding community, who are present during various parts of the project, including the final presentation; a public audience keeps the project authentic for students and allows them to experience what the real world can/will be like.

Example: The sixth grade students used code to write and create their own video games, then they invited a public audience of students, parents, and community members to play their games at an arcade they built in the cafeteria.

Rubric- (n) A tool used to grade and give students feedback about their work and performance; a rubric is divided into 3 or 4 levels of achievement so that students can see their strengths and where they need to improve.

