# Learning and Change Networks

Contract no. 393-5577

## Milestone 5 (final with changes)

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# CONTENTS

This report represents the efforts of participants involved in the Learning and Change Network strategy attempting to manufacture more innovative and effective learning environments for priority learners. It was written by Brian Annan (PhD), LCN programme director, as the fifth LCN milestone report in a 2 ½ year contract for service with the Ministry of Education. A UniServices-Faculty of Education LCN provider team within The University of Auckland delivers the contract.

Acknowledgements go to all three parties involved in the LCN strategy for their input into this report. Considerable thanks goes to network leaders who provided evidence of LCN activity and to the Ministry of Education for their second and much more substantive National Standards report. Acknowledgments also go to the UniServices-Faculty provider team who successfully transformed complex and diverse information into easy-to-use script, images and materials about LCN activity.

# SECTION 1:
# EXECUTIVE SUMMARY

This is UniServices' fifth LCN milestone report. It contains seven sections and three appendices. This executive summary is **Section 1**, which summaries the six other sections in the report.

**Section 2** focuses on student achievement results in LCN participant schools. A summary is provided of a Ministry of Education report, which outlines that participant students made an average shift upwards of 24.43 percentage points against National Standards in the 2014 school year. This overall result is both positive and statistically significant and suggests that there are things happening within the LCN strategy that are worth taking note of at the national (macro), network (mezo) and school (micro) levels of New Zealand's education system.

**Section 3** outlines some of the things happening within LCN that might explain the success of the strategy for priority learners. The section begins by explaining the inductive inquiry approach used by the UniServices LCN team leaders to analyze the nature of LCN activity and identify five underlying success factors. The success factors hinge on one critical element; priority learners are included as active and equal partners alongside adults in the collaborative networking activities – from design and planning through to implementation, evaluation and setting next steps.

The five success factors are:

1. Activating priority learners' interest, creativity and responsibility around learning.
2. Manufacturing opportunities for priority learners, teachers and families/whānau to conduct disciplined, interactive inquiries into priority learners current learning situations.
3. Activating priority learners, teachers, families and leaders to collaboratively adjust their agency around learning.
4. Exploring the relationship between LCN activity and valued outcomes for priority learners.
5. Dedicating time to stop, think, strategize and change tact to create more innovative and effective learning environments with and for priority learners.

**Section 4** provides an update of the newly established LCN science networks. This section provides an interesting twist in the journey of developing networking to address achievement challenges across the curriculum. Every effort was made to transfer LCN methodology for reading, writing and mathematics across to science networking, which has been useful in some areas but not in others. Science network leaders, particularly at the primary level, consider that science became lost as a subject and their interest is to regenerate science as a subject, science learning progressions and high quality science teaching. Teaching professionals, therefore, have some foundation curriculum work to do before considering a broader range of change priorities. This section describes how these developments are unfolding,

which is a fascinating interplay between teaching professionals relishing the opportunity to become creative and LCN Facilitators and LDA's attempting to safeguard what they believed was the LCN 'way of doing things'. Science networking is clearly pushing out the boundaries of flexibility in the LCN framework.

**Section 5** provides a brief update of insights from external agents alongside a growing pool of publications coming from internal agents. Collectively, they provide some rich insights into lateral networking, not just about LCN but about the value of broader lateral networking growing across the schooling system.

**In Section 6**, agency readjustment is put forward as a point worthy of policy interest. Agency readjustment is a phenomenon occurring among priority learners and their teachers, families, whānau and school leaders. Evidence of this phenomenon was prolific in the multiple analyses of data compiled for this milestone report. All four groups, and business leaders in some communities, are coming to terms with re-thinking their roles and responsibilities around learning among priority learners. For some LCN participants, it is 'student agency' that is the big idea. Yet, participant students do not want to be put out in front to explore learning in isolation to those adults that make them feel safe, capable and confident. They are asking their teachers, families and whānau to become joined at the hip with them as they expand their learning boundaries.

**Section 7** presents four recommendations. Rec 1 is for the Ministry and UniServices to prepare a joint presentation to show LCN activity impact on National Standards data. Rec 2. is to encourage network leaders and participants to complete impact checks and to submit these to UniServices for LCN Milestone 6. Rec 3 is for networks to present their impact checks at the national networking event on 6/7 July. Rec 4. Is a suggestion for the Ministry to invest in a publication that transforms the LCN induction manual into a document that is user-friendly for any lateral learning strategy being introduced into the NZ schooling system.

**Appendix 1** provides a summary of LCN activity associated with the artefacts that network leaders submitted for this milestone report.

**Appendix 2** provides an LCN induction manual that can be used anyone interested in growing lateral networking within the schooling system.

**Appendix 3** provides descriptions of developments in four of seven science networks that have had sufficient time to make a start on their LCN journey.

# SECTION 2:
# STUDENT ACHIEVEMENT

LCN strategy intent from the outset has been to create collaboration among schools in order to raise academic achievement among priority learners[1]. A focus on school collaboration and National Standards was tied to the cabinet minute that activated the LCN strategy appropriation. The Ministry of Education, therefore, considered National Standards data as the primary success measure for LCN activity.

## 2.1. Tracking student achievement

Early in 2013, the Ministry of Education set up a database to track progress against National Standards of priority learners involved in the LCN strategy. Progress at the end of the 2013 school year was published as a Ministry report within the UniServices Milestone 3 report. Usable data at that stage, although only from a small sample of 53 schools, indicated positive and statistically significant gains for priority learners. It was an early indication that something positive was happening for students who were typically in a cycle of on-going generational failure in formal learning at school.

A second Ministry report tracking National Standards data in relation to LCN priority learners was completed at the end of the 2014 school year. That report outlines that students participating in the LCN strategy had an average shift upwards of 24.43 percentage points against National Standards in the 2014 school year. This result is both positive and statistically significant. A summary of student achievement-related information from the Ministry report is outlined in the table below.

***Summary***
**Ministry of Education Report**
**LCN strategy National Standards data 2013-14**

The [Ministry's] standard success measure [for the LCN strategy] is the National Standards levels of 'Above', 'At', 'Below', or 'Well Below'.

*Method*

- Schools and networks decide on criteria for selecting their priority student cohorts to track as part of their LCN work.
- Schools submit the final National Standards OTJ for their priority students to the Ministry on the LCN National Standards data spreadsheet in November or December.
- This [data] is analyzed by members of the [Ministry's] Evidence, Data and Knowledge and LCN teams.

*LCN Cohort*

The 2014 National Standards cut-off date to meet milestone reporting deadlines was 31

[1] Priority learners are those students that are 'Below' or 'Well Below" National Standard in reading, writing and/or mathematics. The Ministry also states an interest in trends for Māori and Pasifika students and for both males and females.

December 2014. Table 2.1 shows the spread of the 46 LCN networks across the three phases; Infrastructure (4 networks), Understanding (8 networks) and Implementation (34 networks).

*Table 2.1: Profile of the LCN initiative as at 31 December 2014*

| | Number of Networks | Number of ECE | Number of Special Schools | Number of Kura | Number of Primary | Number of Intermediates | Number of Composite | Number of Secondary Schools | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Infrastructure** | 4 | | 0 | 0 | 26 | 2 | 1 | 1 | 30 |
| **Understanding - early** | 6 | 0 | 0 | 5 | 24 | 3 | 0 | 3 | 35 |
| **Understanding - late** | 2 | 0 | 0 | 2 | 7 | 1 | 0 | 1 | 11 |
| **Implementation** | 34 | 5 | 39 | 13 | 163 | 10 | 2 | 10 | 242 |
| **Total** | 46 | 5 | 39 | 20 | 220 | 16 | 3 | 15 | 318 |

The understanding phase is split into two parts for reporting purposes;

- Networks at 'Understanding - early' were involved in investigating their change priorities and have not decided the makeup of their LCN priority learner-tracking cohort.
- Networks that had completed their practice analysis investigation and were designing their network and school plans to address their change priorities are termed 'Understanding – late'.

In order to measure the impact of their LCN activities, the 198 primary schools/kura (highlighted in green in Table 2.1) that were in Understanding - late or Implementation phases were asked to provide National Standards data for the priority learners they were tracking. 181 schools responded by the cut off date for inclusion; a response rate of 91%. Seventy-eight schools provided OTJ's for 2012, 2013 and 2014, by the cut off date. In addition, 108 schools were able to provide data for 2013 and 2014. The majority of these 108 schools joined and implemented the Learning and Change methodology from late 2013 to late 2014.

Three kura provided Ngā Whanaketanga Rumaki Māori data, which is discussed separately. Ngā Whanaketanga Rumaki Māori data is small reflecting the small number of kura ready to identify and track priority learners for the LCN initiative. A number of kura have also chosen to assess students using National Standards; their data is included in that analysis.

It is important to be aware that a portion of priority learners being tracked by schools/kura moved from one school to another during the year (excluding students graduating to intermediate or secondary school). The data for these students (approximately 16% annually) was withdrawn from the analysis on an annual basis to ensure the data was clean from a statistical perspective.

The geographical distribution of where the data, including Māori Medium data, was submitted from can be seen by region in Table 2.2.

*Table 2.2: Regional distribution of the LCN initiative data*

| Region | Number of schools/kura | Percent of schools/kura |
|---|---|---|
| **Northern** | 67 | 37.0% |
| **Central North** | 33 | 18.2% |
| **Central South** | 33 | 18.2% |
| **Southern** | 45 | 24.9% |
| **Māori medium** | 3 | 1.7% |
| **Total** | 181 | 100.0% |

There are a total of 3795 students from the 178 English Medium schools included in the cohort. Of the 3795 students, the majority is male (2462 or 64.9%), 1247 identified as Māori (32.9%) and 714 identified as Pasifika (18.8%).

Writing is the National Standard area most often selected for tracking (63%), followed by Math (24.9%). This needs to be taken into account when applying the findings broadly across all National Standard areas, because of the difference in data between writing and the other National Standard areas.

*Table 2.3: Demographics of Students in LCN Initiative*

| Group | Total learners | % of learners |
|---|---|---|
| **Total (all learners, all subjects)** | 3795 | 100.0% |
| **Male** | 2462 | 64.9% |
| **Female** | 1333 | 35.1% |
| **Māori** | 1247 | 32.9% |
| **Pasifika** | 714 | 18.8% |
| **Writing** | 2391 | 63.0% |
| **Mathematics** | 946 | 24.9% |
| **Reading** | 458 | 12.1% |

*Overall student achievement results*

Data suggests that after two years, the LCN strategy is having a significant positive impact upon priority learners across LCN schools and networks. This includes cohorts often over-represented in negative achievement data; males, Māori and Pasifika students, and while achievement rates for these groups is less than some others, it still represents a very positive outcome (refer to Table 2.13).

In addition the impact is greatest in writing and mathematics, two National Standard areas of particular national concern and focus.

*Table 2.13: Summary achievement change for particular cohorts 2013-2014*

| Group | Total learners | % of learners | Percentage Point change 2013-2014 |
|---|---|---|---|
| **Total (all learners, all subjects)** | 3795 | 100% | 24.43pp |
| **Writing** | 2391 | 63% | 24.72pp |
| **Mathematics** | 946 | 24.90% | 26.01pp |
| **Reading** | 458 | 12.10% | 19.65pp |
| **Māori** | 1247 | 32.90% | 19.32pp |
| **Pasifika** | 714 | 18.80% | 17.65pp |
| **Male** | 2462 | 64.90% | 22.3pp |
| **Female** | 1333 | 35.10% | 28.33pp |

## 2.2. Implications of student achievement outcomes

The Ministry's estimation of about a quartile shift from well below and below to at and above National Standards in one year is an outstanding success story. Although there are numerous caveats associated with claims of success based on National Standards data, the overall result indicates that there are things happening within the LCN strategy that are worth taking note of at the national (macro), network (mezo) and school (micro) levels of New Zealand's education system. A critical inquiry for people operating at each of those levels in the system is to figure out what the useful things are within the LCN strategy and to grow them within and across the education system.

The next section explains an inductive inquiry approach that UniServices LCN provider team leaders used to identify macro success factors within LCN activity. It also reports the findings from the inquiry and discusses the findings briefly.

# SECTION 3:
# SUCCESS FACTORS UNDERLYING LCN ACTIVITY

The following question sets the scene for this section: "What are the success factors underpinning the LCN strategy?" Success in this case is linked to effectiveness. In other words, the factors that are under investigation are those that activated priority learners to make significantly positive moves up the National Standards scales from 'well below' and 'below', towards 'at' and 'above'.

Content in this section cannot provide a complete or fully accurate answer to that question. Rather, it is one national overview perspective from UniServices-Faculty LCN team leaders based on evidence gathered to analyze the nature of LCN activity. A complete and accurate answer requires networks and schools to conduct fine-grained analyses of LCN activity in relation to academic achievement trend lines of their priority learners. That activity is something that networks will be encouraged to do over the next few months in order that participants come to understand what has made the positive difference for them in their specific context. That activity will also honour a critical LCN facilitation principle to activate participant agency to unpack the reasoning for success rather than doing it for them.

This section starts by outlining the inductive inquiry method that UniServices-Faculty leaders used to identify five success factors underpinning LCN activity. It then presents findings from the inductive inquiry inclusive of five success factors. A brief discussion is presented about the success factors followed by a proposed way that facilitators and LDA's can support networks from February to June 2015 to determine success factors specific to their network and individual school LCN activities.

## 3.1. Method to identify success factors

UniServices-Faculty's LCN lead team used an inductive inquiry method to identify success factors underpinning LCN activity. The table below outlines the inductive inquiry method. The method involved two tiers of data analysis followed by a third tier of analysis to identify success factors. The first two tiers of analysis were non-judgmental in that the were looking for patterns in the data that pointed to trends of activity. The exercise identified a set of trends, which were analyzed in turn to find the underlying success factors. Backward mapping checks were then completed to ensure that the success factors were present in the detail of the reference group members' statements and the artefacts of LCN activities. Despite the rigor in the inquiry process, the success factors remain a set of evidence-informed hunches that participants can verify, alter or refute through network and school-level analyses over the next few months.

Table. Inductive Inquiry to identify Success Factors in LCN Activity

<table>
<tr><td colspan="2">Tier One data gathering, collation and analysis about LCN activity</td></tr>
<tr><td>• Statements made by an LCN reference group (10 network leaders, three UniServices-Faculty facilitators and three LDAs) about the nature and value of LCN activity. Those statements were made after two days of intensive discussion about LCN activity.<br><br>• Reference group statements grouped into one document.<br><br>• Identification of ideas in each paragraph of statements<br><br>• Group similar ideas and label each group<br><br>• Analyze the group labels to understand the leaders' perspectives of the nature and value of LCN activity</td><td>• Artefacts of LCN activity voluntarily submitted by 21 out of 47 networks across the country.<br><br>• Artefacts given a title and filed in dropbox against each network.<br><br>• Artefacts analyzed and each activity coded and placed into one of four tables, that is (i) Student Achievement, (ii) Data Analysis and Use, (iii) Leadership in Networking and, (iv) Lateral Learning.<br><br>• Identification of themes within each of the five tables<br><br>• Analysis of the themes from the four tables to understand the nature of LCN activity within the artefacts submitted</td></tr>
<tr><td colspan="2">Tier Two - trend analysis<br>• Merge into a set of trends the labels from leaders' perspectives with themes from artefacts of LCN activity</td></tr>
<tr><td colspan="2">Tier Three – underlying success factors<br>• Use the trends to write a set of success factors underpinning LCN activity<br>• Check for a clear line of logic from success factors to the activity trends to the activity labels/themes to the activity details within the data bases</td></tr>
</table>

### 3.3.1. Tier one analysis of reference group data

Analysis of the statements written by the LCN reference group members about the nature and value of LCN activity led to six sections of ideas. The first relates to LCN providing a flexible and adaptive framework around networking activity. The second highlights the considerable energy that has gone into building collaborative partnerships and relationships. That section also highlights the value placed on trust building. The third section outlines the way that LCN activity has created a new sense of relevance around learning for priority learners that is also energizing teachers and families. Breaking tradition is the label for the fourth section, which relates to a break away from rushing things, to taking the time to challenge status quo beliefs and practices. The fifth section focuses on a new resolve to get past the rhetoric and

be innovative around modern learning. Next steps outlined in the sixth section suggest that LCN activity to date has only scratched the surface of possibilities around introducing lateral networking into the schooling system. There is a desire for ongoing deeper learning and change with all stakeholders collectively stepping into the future with confidence that good things will happen for priority learners by manufacturing creative, inquiry-based networking with and for them.

***LCN Reference Group Statements***

**The nature and value of LCN activity**

**A framework** that

- Is adaptable and malleable to the needs of the people it serves
- Created our own pathway to a networked learning environment. Heading in the right direction to be transformational
- Is focused on individual learners learning
    - Focused on the world of the learner
    - Focus on lifting performance of priority learners
    - Focus on student learning
    - Ako/Reciprocal learning around student learning
    - Priority learners have benefited
- Is focused on priority changes

**School collaboration, partnerships and relationships**

- Rich discussions about partnership building
- Collaboration across schools
- Collaboration
- Collaboration
- Collaboration
- Collaboration
- Collaboration
- Professional trust and collegiality
- High trust between schools
- High trust
- Grows trusting relationships
- Trust
- Partnerships across schools
- Relationship building with other schools – high trust, a common goal
- Cross-pollination meetings
- Making connections
- Professional dialogue and visits
- Effective teacher practice

**Relevance for students, teachers and families**

- LCN creates relevance – designed by all of us
- Personalization of change priorities to all groups
- Shared responsibility for students' progress and achievement between teachers, students and family
    - Shared ownership
    - Growing agency of all stake holders
    - Agency across all groups
    - Inclusion of students and whānau
    - Community and children involved
- Student Agency
    - Students taking responsibility for own learning
    - Students enjoying understanding their learning
    - High levels of behavioural engagement – a stepping stone to lifting the cognitive

challenge in learning
- Building partnerships with parents and whānau
    - Engaging families in genuine partnerships
    - Parents as active partners
    - Engagement of whānau
    - Relationship with community

**Breaking tradition**

- Having time to think
    - What we were doing wasn't working
    - My thinking about learning has been seriously challenged
    - Re-thinking the nature of learning / on-going discussions to break traditional thinking and practice
    - Having the license to do things differently for priority learners
    - Opportunity to think deeply
    - Time to think and change practice – student agency as the key driver
- Knowledge transformation through networking
    - Lateral learning
    - Lateral learning
    - Lateral learning
- Challenging beliefs and practices
    - Challenging existing beliefs
    - Needed changes in our collective mindset
    - Breaking away from teacher domination
    - Challenging current beliefs
    - Dealing with traditional views
    - Breaking through traditional PLD

**A new resolve**

- No going back to dispensing education
- Belief in the group
- Learning at all levels can be energetic and exciting
- IT tools for students creates freedom and control of their learning
- Digital connectedness essential
- Getting past the rhetoric
- It is possible to create a vibrant, energetic group of learners
- Its about our current learning practice; community, national, global
- Aligning NZ Curriculum and National Standards
- Appraisal system has incorporated LCN
- Some innovation occurring in our school because of LCN

**Next steps**

- Just scratching the surface
- Networking takes time to learn
- Thinking has to change at every level
- Getting everybody on board
- Need everyone involved to create transformation
- A huge shift in teaching professionals belief to enable student agency
- LCN currently has traditional PLD through to networked, participatory learning – still a lot to do
- Holding each other accountable for progress
- Need to transform PLD
- New form of PLD – needs on-going investment for sustainability
- Invest in those networks that 'get it' as a way forward
- IES

### 3.2.2. Artefact contributions from networks

Contributions to this milestone exercise were purposely left open-ended so that networks could submit artefacts that they found most interesting and useful.

21 LCN networks submitted artefacts, some submitting many and others one or two. Science networks were not asked to submit artefacts as they were still in infrastructure and early stages of understanding phases. There was far greater input from individual schools than from networks.

It was a privilege to analyze the broad-ranging LCN activities. Overall, many networks and schools are capturing images and video evidence of LCN activity ahead of written reports.

Some possible reasons for networks not submitting data include: busy at end of year; relevance to their agency as a network; confusion between submitting achievement data to MoE and artefacts to UniServices; no systems in place for capturing evidence as they go; 'passenger' schools leaving reporting requirements to enthusiastic schools.

### 3.2.3. Tier one analysis of network artefacts of LCN activity

Analysis of the content of the artefacts submitted by the 21 networks led to nine sections that show considerable interest within the networks towards a particular style of inquiry. Appendix One provides additional detail of those nine sections. The first section shows some interest in understanding the theory underpinning LCN activity. From that point on, the other headings articulate interest in a cycle of identifying achievement challenges and associated change priorities, planning and implementing change, checking for impact and agreeing on next steps. There were no content ideas that deviated from that pattern of inquiry, which indicates the LCN activity has considerable integrity around inquiring into learning and change with and for priority learners.

Some strong patterns in development interests that were found across the sections:

- collaboration underpins most activity;
- growing new forms of agency and shared responsibility among students, teachers, families/whānau and leaders;
- priority learners visible alongside teaching professionals in design, implementation and evaluation with family/whānau close by; and
- mapping of priority learners' current learning situation as a new and valued formative assessment tool.

There is also considerable diversity in development interests, particularly in the change priorities, implementation and tracking/monitoring and evaluation. This indicates that integrity to an overall inquiry approach does not straightjacket networks into generic patterns of development. This could be an indication of growing interest in personalization. It could also be that schools have always been doing things in diverse ways and that they are not about to change that arrangement any time soon.

1. **Understanding LCN Network theory – collaborative, interactive, appreciative, ecological**
    - PowerPoints frontline place of students, family, whānau 8
    - Animations 4
    - Self-Review 1

2. **Achievement challenge**
    - General targeted achievement 7
    - Target groups 6
    - Engagement 4
    - Transition 1
    - Early years 1
    - Leader Inspired 1

3. **Investigating current learning environments**
    - Maps 57
    - Analysis of practice 5
    - Surveys 4
    - Indicators of success 2
    - Interviews 1

4. **Change priorities**
    - **Change priorities selected**
        - Student Agency 13
        - Involvement/engagement family whānau; community engagement 9
        - Digital Motivation/E- learning/Digital tool/ Digital Pedagogy 9
        - Future Focused Learning/21st Century learning 7
        - Teacher Agency/PLd/Capability 5
        - S-F-T-L voice linked to teacher inquiries 4
        - Pedagogy 4
        - Engagement for learning 3
        - Agency of S/T/F/L 3
        - Learning Environments 2
        - Scaffolding Oracy/learning from Oral Literacy 2
        - Transition 2
        - Connectivity 2
        - Sustainability 1
        - Authenticity 1
        - Lateral Learning 1
        - Valuing children's oral languages and experiences 1

- These priorities now underpin all we do. Engagement family whanau, Student Agency, Active learning Introduction Digital Tools, e-Learning, Future-focused, Enhance connectivity, Pedagogy, Learning environments, Lateral Learning relationship 1

**5. Process around change priorities**

- Change priority graphic 5
- Logo depicting change Priorities 4
- Network parents and families deciding indicators 2
- Network Parents deciding change priorities and indicators 2
- Network Teachers deciding indicators for success, actions and measures for monitoring s/t/L//f 1
- Probe 3 used to narrow indicators for change priorities and inform Network plan 1
- Leader inspired - Scaffolding Oracy/learning from oral Literacy/Valuing children's oral languages and experiences 1

**6. Create a plan**

- School plans 29
- Network plans 26
- Individual student plans 4

**7. Implementation**

- Collaborating 27
- Student voice/agency 20
- Parent/whānau/community involvement 18
- Teacher PLD 18
- Teacher inquiry – changing role of the teacher 22
- Developing LCN [online] sites 17
- Digital 7
- Moderation 6
- Authentic audience 5
- Learning environments 4
- Student workshops 3
- Assessment tools 3
- Hapu/Iwi 2
- Strategic resourcing 2
- Transition 2
- Pedagogy 2
- Cultural responsiveness 1
- Relationships 1
- Transition/ partnership 1
- Data measuring 1

**8. Monitoring, tracking and evaluating**

- Formative assessment 18
- Mapping 14
- Parent evaluation 10
- Systems for tracking 8
- Evaluative probes 7
- Student voice 7

- Teacher voice 6
- Evidence Statements 5
- Interviews 5
- Appraisal 4
- Tracking transition 4
- Case Studies 3
- IEPs 3
- Moderation 3
- Network plan 3
- Students Self – Review 3
- Network evaluators 2
- Roll data 1
- Parent involvement 1
- Outcomes from inquiry 1
- Measuring family/whānau engagement 1

**9. Next steps**

- Students 19
- Parents 8
- Teachers 7
- Strategic planning about how students learn 7
- Common assessment 5
- Community 1

## 3.3. Trend analysis

Sets of success criteria start to emerge when the trends from the reference group statements and the artefacts of network activity are put together. Feature words and terms start to appear. Collaboration, co-construction, collective strategizing verifies the way lateral networking has been embraced as a useful lever for change. Students, in this case priority learners, are constantly mentioned. Agency comes up regularly around students but also around teachers and families and whānau, indicating an agency readjustment phenomenon rather than a sole focus on 'student agency'. There is a sense of breaking traditions to think and act in modern and digital learning environments. These words and terms start to sharpen a set of LCN success indicators.

| Trends from reference group and artefacts |
|---|
| **LCN Reference Group**<br>• Flexible frameworks<br>• Focused on priority learners' learning<br>• Creative pathways to identify change priorities<br>• School collaboration, partnerships and relationships – trust/connections<br>• Relevance and personalization's for students, teachers and families<br>• Shared responsibility – students, teachers, families<br>• Student agency<br>• Building partnerships with parents and whānau<br>• Breaking tradition by taking time to think and believing in people as knowledge mobilizers<br>• A new resolve to be future-focused and not going back to old ways<br>• Next steps - dedicating time to learn about networking at a deep level<br>**Artefacts from LCN networks' activity**<br>• Understanding LCN Network theory – collaborative, interactive, appreciative, ecological<br>• Targeting priority learners and their achievement challenges<br>• Investigating students' current learning environments, mostly through mapping<br>• Identification of relevant and personalized change priorities, two most prominent are student, family/whānau/teacher agency/engagement and digital/future-focused pedagogies/tools,<br>• Co-constructed process around change priorities and planning for change<br>• Diverse implementation through collaborative inquiry involving students, teachers, families/whānau and leaders<br>• Monitoring/tracking/evaluating through collaborative, formative assessment, and mapping has become a significant assessment tool<br>• Next steps to focus on students, families/whānau and teachers strategizing around how priority learners can learn better |

## 3.4. Success factors

Trends from the reference group statements and artefacts of LCN activity point to five success factors underpinning LCN activity. The five success factors are listed below. The suggestion is that if networks do the following things, across and within schools , they are likely to significantly lift achievement among priority learners.

1.Activating priority learners' interest, creativity and responsibility around learning.

2. Manufacturing opportunities for priority learners, teachers and families/whānau to conduct disciplined, interactive inquiries into priority learners current learning situations.

3. Activating priority learners, teachers, families and leaders to collaboratively adjust their agency around learning.

4. Exploring the relationship between LCN activity and valued outcomes for priority learners.

5. Dedicating time to stop, think, strategize and change tact to create more innovative and effective learning environments with and for priority learners.

Most networks have adopted a generic LCN inquiry approach to do development activity but there is considerable variety in the detail. The inquiry approach is explicit about engaging priority learners and their families/whānau from the outset to work alongside teaching professionals in making sense of the current learning situation before launching into change. A diverse mix of change priorities have come out of that collaborative investigation. Equally diverse is the way networks have gone about implementing and tracking/monitoring and evaluating changes made. Networks, therefore, have put their own spin on the overall inquiry approach, which has led to considerable variety in both process and detail of development.

Given the overall 20% plus achievement gains, part of LCN's success indicators lies in teaching professionals having license to be creative and follow development interests with one caveat in mind. Teaching professionals being creative is fine as long as creativity fits with the interests and aspirations of priority learners and their families/whānau. Teaching professionals moving beyond taking account of priority learners' and their families' and whānau views to true power sharing partnerships has created some transformational thinking about school development. It is at the light end of transformation, in that participants have acknowledged that they have just scratched the surface of what is possible in terms of shared responsibility and agency around learning.

One of the traps of trying to identify success factors in school and community development is to jump too quickly to solutions or latch on to what looks like a good idea too early. This trap is often referred to in the literature as 'quick-fix' solutions and following fads and fashion. Student agency as a 'must-do' change priority is an example in this case. As if student agency is a pre-requisite for successful networking. Analyses associated with the findings in this milestone report delved into a pool of evidence and found that agency is certainly a success factor. However, it is not about students in isolation to teachers, families, whānau and leaders. It is an agency readjustment process whereby all those groups are thinking about their agency within priority learners' learning environments.

A good way to avoid that trap in relation to success factors is for participants to go back to LCN methodology and conduct thorough investigations at each stage of development. In order to conduct a thorough investigation with integrity within the LCN framework, priority learners and family and whānau have to become co-analysts alongside teaching professionals. A typical set of LCN investigations include;

- Priority learners' achievement challenges
- Priority learners' current learning situation
- Change priorities for priority learners, teachers, families, whānau and leaders
- Implementation of change priorities
- Understanding the impact of changes on student achievement
- Working out next steps.

Each investigation requires rigor and collaboration. Appendix Two, Facilitator's Guide to LCN Networking, provides guidelines for facilitated support to networks to conduct those types of investigations. The 'facilitator' could be an external facilitator from UniServices or another organization or an internal facilitator such as a principal or teacher.

### 3.5. A process for network leaders to identify success factors

The following table provides lists that are suggestions for students, schools and networks to complete impact checks and identify success factors attached to their LCN activities.

***Student impact check.*** Prepared by each priority learner.

1. Analyze my National Standard's data.
2. Complete a learning map to show the changes that have been made in my learning environment that caused the lifts/drops in National Standard's data.
3. Create a 2-3 minute video to explain changes that have occurred in my learning environment that explain my lifts/drops in National Standard's data.
4. Share my learning map with my teacher and my family members that support my learning.
5. Listen to feedback from my teacher and family members and set new learning practice goals.

***School-wide impact check***. Prepared by school leaders.

1. Complete a spreadsheet that records two point-in-time National Standard data against the names of priority learners involved in LCN activity.
2. Complete a statistical analysis of the National Standards data to arrive at individual student, class-by-class and school wide pictures of academic progress.
3. Complete an inductive inquiry into the network activity to find out the nature of the activity that is having the greatest impact. This means analyzing data about the network's activity. It could be data from the learning maps, evaluative probes, interviews, observations, videos and other ways that the networking activity has been captured.
4. Identify 3-5 success factors underlying the network.
5. Create a presentation and share it with the students, teachers and families involved in the networking and also for the board of trustees and community. Receive feedback from those groups then use the presentation information to adjust annual and strategic plans.

***Network-wide impact check.*** Prepared by network leaders

Follow the same pattern as the school-wide impact check above for points 1-5 but at the network level. For No.5 create a presentation and share it with participant school leaders. Receiving feedback from participant school leaders and finalize the presentation for submission UniServices for the LCN milestone 6 report and share at a learning session at the National Networking Days 6/7 July 2015

# SECTION 4:
# EARLY DEVELOPMENTS IN LCN SCIENCE

## 4.1. Introduction

There has been renewed attention to science teaching and learning with recent OECD publications showing a drop in New Zealand's world rank. Seven science networks are now in development as a contribution alongside other government strategies to rectify the drop in ranking. Applying LCN principles and methodology to a science focus was logical and practical as LCN has already been successfully demonstrated in literacy and numeracy. Summary information about the seven existing LCN science networks is outlined in the table below.

Summary data of existing networks

| Summary of Science LCN | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Network name | Schools enrolled | Pre school | Primary | Intermed. | Secondary | Composite | Total roll | Maori | Pasifika |
| Balmoral | 7 | | 6 | | 1 | | 5805 | 683 | 1254 |
| Botany | 10 | | 6 | 2 | 2 | | 9498 | 634 | 612 |
| Central Hawkes Bay | 12 | 1 | 10 | | 1 | | 1588 | 556 | 20 |
| Half Moon Bay | 8 | | 5 | 2 | 1 | | 6553 | 336 | 151 |
| Manurewa | 9 | | 4 | 2 | 3 | | 6219 | 1978 | 2329 |
| Maungatapere | 5 | | 5 | | | | 485 | 103 | 4 |
| Tūwharetoa | 6 | | 4 | | | 2 | 398 | 398 | 0 |
| **Totals** | 57 | 1 | 40 | 6 | 8 | 2 | 30546 | 4688 | 4370 |

## 4.2. Priority learners

Selecting priority learners was often discussed by network leaders in early meetings. Network leaders were apprehensive about selecting individual priority learners for science based exclusively on ethnicity, gender, or ability. They seemed to feel that they had to do it on their own without much guidance because of the lack of National Standards in science. They were concerned about making a decision about the quantitative value at which to 'cut off' a group of students. Some leaders felt that all students should be considered priority learners in science. There was also

concern that high achieving students excluded from a special science endeavour would feel left out, and that their special contributions could be lost.

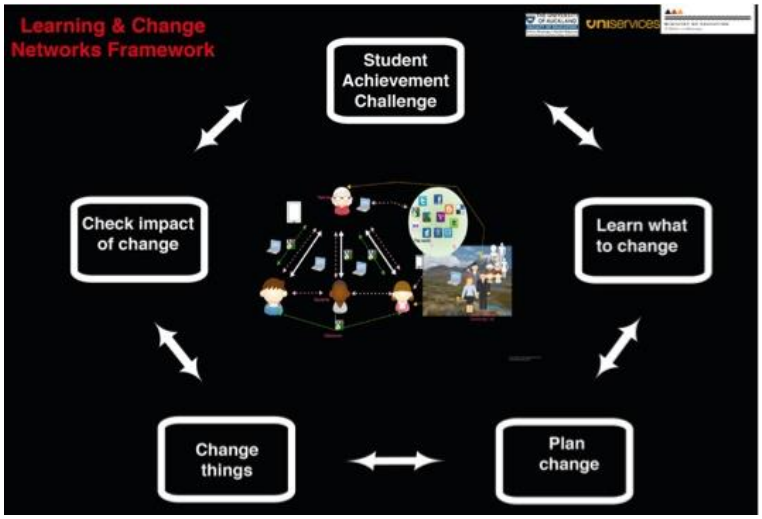
No network has committed to 'traditional' categories of priority learners who have shown low achievement in science, and some networks continue to defer the selection of priority learners. Some discussions have lead to the idea of a science club, which exist at a handful of schools, where participants would be self selected and could represent a range of abilities. The Half Moon Bay network, though, has aimed to focus on cohorts of students who can be tracked within their network from their primaries, through intermediates and into a secondary school. The vision they choose to follow could impact all their students, but those who participate in data generation and collection will be only in the selected cohort, which they feel is a more manageable undertaking.

### 4.3. Stage of development

*Implementation framework*

The LCN framework (refer to figure below) was developed in concert with conventional networks, and has been received positively at science network meetings by network leaders and enthusiasts when referred to by facilitators. After initial infrastructure and understanding meetings, facilitators encouraged networks to focus on the first two elements in the framework, which is developing a 'student achievement challenge' and 'learning what to change'. In early discussions, network leaders, facilitators and LDA's recognized that it would be difficult to follow the cyclical process for science. Rather, it would be a matter of changing practice at single points in the framework. For instance, for some networks there is little point moving beyond learning what to change without addressing curriculum progressions and making science a visible subject for teaching and learning. For science networking, therefore, sometimes additional arrows are added to the figure so it looks more like spokes on a wheel than a cycle of inquiry.

LCN Implementation framework



*Current status of science networks*

The table below outlines the science network's current status of development. Balmoral and Manurewa are listed first as newly formed networks, followed by Tūwharetoa which has made an initial start, followed by Botany, Central Hawkes Bay and Half Moon Bay all of which are well into the understanding phase.

Current status of science networks

| **Current Status of Networks** | | |
|---|---|---|
| Network | Stage | Status |
| Balmoral | Infrastructure | 1st network meeting scheduled for February 2015 |
| Manurewa | Infrastructure | 1st network meeting scheduled for February 2015 |
| Tūwharetoa* | Infrastructure& Understanding, Achievement Challenge Selected | Leaders and facilitator have met multiple times since mid-2014 |
| Botany* | Infrastructure & Understanding<br>• baseline data collected, achievement challenge analyzed & selected, priority learners selected | Leaders, enthusiasts, LDAs and facilitators have met multiple times since mid-2014 |
| Central Hawkes Bay* | Infrastructure & Understanding<br>• baseline data collected, achievement challenge analyzed & selected, priority learners selected | |
| Half Moon Bay* | Infrastructure & Understanding<br>• baseline data collected, achievement challenge analyzed & selected, priority learners selected | |
| * See Appendices Three for milestone contributions from indicated networks. | | |

### *Infrastructure*

Ministry Lead Development Advisors generated interest in science LCNs with school leaders, and initially met for infrastructure discussions with school leaders who self-selected for inclusion in the network. Unlike conventional LCNs, the UniServices lead and science facilitators were invited to most of these early meetings. The LDAs often explained the nature of LCN funding, terms of reference, and milestones and timelines, as well as shared their experiences with conventional LCNs. The

facilitators made suggestions for logical progressions and next steps with an open mind to new development approaches in science. Facilitators usually used time in these early meetings to emphasize the nature of genuine lateral-networking, the need to develop a shared network vision that categorically included the input of priority learners and their families, and the possibility of developing a truly novel, sustainable, future-focused science learning environment.

LDAs and facilitators also tried to preview the common stumbling blocks, such as

- defining/selecting priority learners,
- implications of exclusion of priority learners,
- no national standards in science,
- clinging on to professional development over networking, and
- network leaders seeing themselves as the network instead of activating networking among students, teachers and families/whānau.

Early network meetings were often held with principals, deputy or assistant principals and occasionally heads of science, in the case of some secondary schools. In the more rural Central Hawkes Bay network, these were often teaching principals, and concerns arose over the shared pool of relievers and availability for meetings. These concerns have not entirely been resolved and exist to a lesser degree in the more urban, Auckland-based networks. In all networks, 'science enthusiasts', often a keen science teacher or general studies teacher with a science background, have started attending and contributing at most meetings. Most networks cycle their meetings around participating schools; this allows for participants to tour different facilities and familiarize themselves with different learning environments and often sparks useful informal learning conversations.

### *Selecting achievement challenges*

The rationale for network members choosing an achievement challenge together is to establish a unity of purpose for the network, and accountability among the members.

The discussions that arose when this idea was introduced were largely stymied by the question of "What does achievement in science look like?" Particularly in the primary sector, the lack of science educational standards makes the network leaders feel that they have no 'target' to aim for. The network leaders do appreciate and use the NZ Curriculum documents, recognizing that their broad scope gives them flexibility in designing their own programmes. Networks have not identified a specific student achievement challenge, but each has developed an overarching vision or goal to establish clarity around the nature of science and learning progressions through schooling.

Facilitators support networks to collect learning maps data and to define science achievement and identify a challenge. Then LCNs can develop progressions and determine if students are engaged and succeeding. The learning maps helped networks identify priority learners and develop some baseline data. The network with the most ownership of the learning map process had the most developed and individualized school and network plans, possibly because they also spearheaded their own analysis.

### *Learning what to change*

The lead facilitator and LDAs with experience in conventional networks were able to encourage science network leaders to assess their current science learning environments early in the LCN implementation process. This move provided baseline data to be able to measure against in the future. All networks saw value in this but most felt it was a burden on them and their staff as the science networks had been introduced mid-year, which interrupted the regular school strategic planning cycle. LCN facilitators stepped in to provide support to the schools to help generate this data collection process, and there was some in and out-of-meeting time spent on deciding the best method for collecting the data. Some schools opted for surveys, while many chose the learning maps exercise.

Each school then experienced another moment of uncertainty while choosing which students to participate in the learning map activity. Selecting priority learners was difficult because there are no standards in order to identify priority learners in science. Consequently, there was no consistency in selection of students to complete the learning maps. Schools ended up choosing students that they believed would benefit most from the activity. They also select students based on numbers that would be manageable for them. Different options included

- to focus exclusively on what they perceived to be their priority learners,
- to map with a single class,
- to aim to assess nearly their whole school, and
- some held a session after school for parents to participate.

After the facilitators led learning map sessions at some schools, we reminded network leaders that the students and teachers who participated could now easily lead their own sessions with or without facilitator support to increase the diversity of student contributions.

Data analysis methods for the learning maps varied from network to network. In each of them, the science facilitator entered data into a shared file for each individual network to add to and for participant schools to view one another's results. The Botany network held a workshop afternoon with a number of students and science enthusiasts to help interpret the collected data and report back to

network leaders for their further action. Others completed an analysis on a Google doc spreadsheet at a network meeting.

Emerging themes that science networks are thinking about for development are:

- authentic learning in science, a desire noted by learners from all demographics;
- science citizenship and a scientific mindset, an aim that reflects the goals of both network leaders and facilitators;
- and reference to and reliance on the science capabilities.

There is also strong interest among science network leaders to focus on

- Science as a valued subject,
- Learning progressions and
- Modern teaching of science.

## 4.4. Discussion Points

*Difference between anticipated and actual implementation processes*

In early planning meetings, the UniServices facilitators and programme director believed it would be possible for the Science LCNs to progress faster through the infrastructure and understanding phases than conventional networks. A faster pace had not occurred, mainly because the leaders discovered that they have some foundation work to do before getting to some of the LCN principles. Science as a lost subject, particularly in primary schools, needs to be conceptualized for modern-day schooling and learning progressions configured in order to identify priority learners in science. Conventional LCN network leaders did not have to do that work in literacy and mathematics. There is considerable caution among the leaders, therefore, about stretching the agenda to families/whānau without having curriculum matters in order.

A professional need to be seen to be prepared in the eyes of the community has meant that only a very small number of schools have approached or invited community members with capability in science to participate in the network activity. The science facilitator envisioned the LCNs developing novel e-tools or new programs across their schools and using the skills of community and family members to supplement and support their teachers and learners in new ways both in and out of the classroom. Facilitators would see the efforts of different networks and be able to capture gems from one network and offer these positive experiences to other networks, allowing for a flow of ideas across networks, not just within them. This vision is clearly on hold until the foundation curriculum work is complete.

There was also a belief among UniServices facilitator that network leaders could take greater responsibility from the outset. That belief did prove true. One key difference between science and conventional LCNs was that the main network leader for each was established at the Infrastructure stage, so even early meetings

were managed and led, and therefore 'owned', by the network and not led by the LDAs of facilitators. Further, in science networks, the lead facilitator often continues to act as a mentor to these key network leaders and supports and encourages their network's momentum.

*Integrating PLD in LCN*

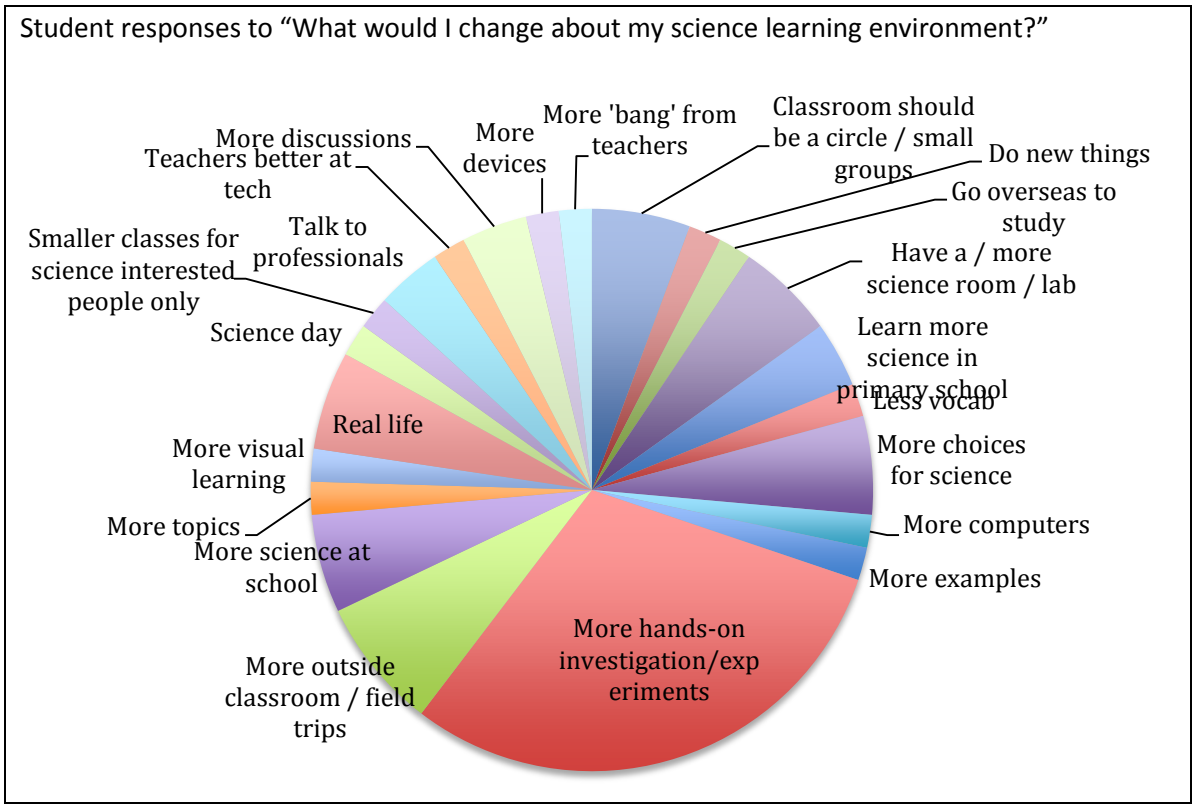
The sentiment from network leaders and enthusiasts at the primary level was often that science learning was 'lost in inquiry', and often was not labeled science in the classroom, and perhaps not recognized as such by either teachers or students. The experience from the secondary school leaders and enthusiasts was that science education was often 'too siloed', and so teachers and students were unable to follow their own interests.

Informal surveys of teachers from both primary and secondary schools showed a desire for increased science education support and further professional learning and development in the teaching of science. Network leaders and enthusiasts who took part in Learning Map activity and surveys were often able to appreciate that increasing PLD was only a small part of making lasting change, and did not request PLD directly from LCN facilitators but sought to incorporate it into their network plans. These networks have a forward looking view to building increased student voice and community and family connections in their science LCNs as teacher confidence is boosted by PLD.

*Student and family, whānau and community involvement*

It is clear from the learning maps activity and interviews that students do enjoy and appreciate science in the classroom. Students overall would like more choice in their science studies, particularly as they get older. The figure below summarizes the Botany network's learning map data where students across nine schools were asked to depict what they would change about their science learning environment. Engagement with family, whānau and community remains low at this stage but several schools have included parents in the learning map activity with LCN staff. It is anticipated that a much stronger focus on family, whānau and community will occur when the curriculum development work is complete.

Student responses in the Botany Network's learning map exercise




*Value of analyzing current learning environments with students*

All science networks recognized the value of and need to understand their baseline science learning environment before undertaking any changes. The network leaders appreciated the information this would give them to identify and measure changes over time. To collect baseline data about student achievement challenges and learning what to change, most networks chose to use the support of the facilitators to undertake Learning Map sessions with students selected by the network leaders or enthusiasts. Several schools also invited parents to the session. Some schools, mostly in the CHB network, chose to use a survey to gather information from both students and parents at the same time, using the same questions. Facilitators took part in both leading the Learning Map sessions, crafting surveys with network leaders, analyzing data, and providing networks with shared online repositories for their data.

The Botany network work shopped their data analysis with a group of teachers and students that resulted in several powerful videos showing the childrens' perception of their learning environments, strengths, weaknesses, and desired changes. These summaries were used in part to develop and inform the network plans and milestone report in 2014. Where Learning Maps were used in favour of surveys, it appears that student voice figured more highly in milestone reports and plans.

The videos also show that students and teacher recognize that the learners are eager and capable. The children repeatedly indicate they do not just want to watch the teacher do something at the front of the class, but want to do experiments themselves, 'where we don't know the answer'. These developments show a sophisticated appreciation for scientific study that network leaders now value and have communicated to enthusiasts and teachers

*Understanding networking*

In 2015, facilitation services will attempt to build on the participants' current understanding of and comfort level with lateral networking. There is considerable scope to go beyond network leader meetings and teacher exchanges between schools.

There are two important factors to get right, in this development.

The first is the timing of introducing a greater level of knowledge building around lateral networking. Network participants are more interested in establishing a modern view of what science curriculum is all about and progressions. It is critical to give network participants time to do this work of interest. Resisting that interest is in direct conflict with network theory. It is better to let that curriculum, teaching and learning work run its course and then introduce the idea of knowledge building around networking as that work is winding down.

The second factor is deciding which group/s within the networks would be best to become the lead knowledge building agents around lateral networking. UniServices facilitation team is suggesting that a network of enthusiastic science teachers semi-attached to the network leaders would be the most effective and efficient way of catalyzing knowledge building about networking. This suggestion is best discussed with the network leaders and LDAs to negotiate a way forward. The concept is spelt out in more detail below in Section 4.5. *Future direction of facilitation*.

## 4.5. Future directions for facilitation in Science networks

To see through network leaders' current interests in curriculum, teaching and learning and then move on to teaching professionals developing a better

understanding of lateral networking, we believe it would be useful to have three components of facilitation;

- Mary Wootton as lead facilitator in the strategic role (with John Locke in this role in the Far North science networks),
- Jessica Costa as science facilitator in the direct co-ordination role, and
- A form of *teacher-led* facilitation.

The first two forms of facilitation are already in place. The third form of facilitation is a proposed to position one teacher or a group of teachers in each network as champion/s for moving along sustainable science network activity with teachers. The idea is to invest in those roles through three phases of development, probably in six-month bites. The first phase is to signal that the role is a worthwhile one. The second phase is to introduce the role within the network and give the teacher-led facilitators a chance to find their feet with the new role. The third phase is to bring together the teacher-led facilitators from the seven networks to regular across-network coaching and collegial learning sessions at the faculty of education within The University of Auckland. If this development trajectory plays out as planned, there will be a strong teacher network that can diffuse the knowledge building into the minds of many colleagues, thereby spreading LCN principles and methodology by the profession for the profession. It is these networking agents that are likely to bring students, families and whānau into the foreground of science network activity.

We propose a $4,000.00 investment to end of June 2014 for the networks that are ready to establish this teacher-led facilitation role with the network. We then propose for those networks an additional $4000.00 to end of December 2014 to form the teacher-facilitator coaching arrangement with the UniServices team at the Faculty of Education. Other science networks can come on board with the role when they are ready.

The $4000.00 investment will be targeted to teacher networking in sync with LCN principles and methodology. We propose to negotiate and contextualize the role with each network's leaders, teachers and attached LDA.

## SECTION 5:
## INSIGHTS FROM EXTERNAL AGENTS

Views about LCN from external agents continue to grow. There are also some useful commentaries from internal agents. The list below outlines recent publications about LCN.

*External publications*

Mckibben, S. (In Press) *Leading Lateral Learning: Learning and Change Networks and The Social Side of School Reform*

Patterson, R. (2014) No School is an Island: Fostering Collaboration in a Competitive System. *The New Zealand Initiative.*

*Internal publications*

Annan, J., Annan, B., Wootton, M., & Burton, R. (2014). Facilitated networks of Learning. *Centre for Strategic Education Seminar Series No 237*, September.

Annan, J., & Carpenter, R. (2014). Learning and Change networks: Connecting Students with learning. *Education Gazette,* October 28, p3.

Twenty-five video clips of LCN theory and practice.
http://www.education.auckland.ac.nz/en/about/learning-and-change-networks/lcn-background.html

Annan, B. & Carpenter, R. (2014). OECD Innovative Learning Environments Project NZ monitoring note 2; Learning and Change Networks (LCN).
http://www.education.auckland.ac.nz/en/about/learning-and-change-networks/lcn-publications-resources.html

All of the publications provide interesting insights into networking activity that can be used to focus more broadly on growing a networking environment within the New Zealand education system. These resources should be useful for LCNs that choose to stick with their current approach to networking. They should also be useful for the current government's policy direction to leverage off existing networking arrangements to inform CoS within IES.

J. Annan et al's (2014) publication focuses directly on the big ideas associated with facilitating networks of learning. It takes account of global trends and has a strong flavor of working from an appreciation of the capabilities of people for whom strategies are designed. The ecological emphasis in that article is nicely balanced by the instructional emphasis in Mckibben's Fulbright Scholarship report. That report acknowledges learning beyond the school but emphasizes the critical importance of effective leadership and teaching within schools as well as across schools. Part of developing effective networking and PLD strategies in New Zealand for the future is to create a healthy balance between ecological and instructional learning. It links to

a global challenge to integrate formal and informal learning environments, something most schooling systems are grappling with.

Patterson's article is sharply focused on policy advice as a follow-on from the general election at the end of 2014. It endorses the move towards greater collaboration in a self-managing environment and identifies elements of LCN that would be useful in the new policy environment. Government as well as university-led facilitation support feature strongly as pre-requisites for a successful networking environment in the future. Those findings are consistent with Fullan et al's argument around collaborative capability building in their 2005 publication: "Eight Forces for Leaders of Change".

LCN representative's involvement in the OECD Innovative Learning Environment's project has created some outstanding international feedback about the LCN strategy. It has also provided an opportunity for the NZ team attending events to learn about global trends in lateral networking and systems-level thinking about education for the future. NZ team members Colin Dale (principal) and Jean Annan (researcher) have submitted for publication some of their insights into the international thinking. A final summary report about NZ team's experience is reported in a recent UniServices milestone report to the Ministry of Education: "*Milestone Report on Two UniServices Statements of work – LCN Strategic co-ordination and OECD Innovative Learning Environment Project (ILE).* The summary report will be posted on the LCN website. Although the OECD ILE project is complete, there are opportunities for ongoing international critical dialogue in 2015 via the merger of the Global Education Leaders Partnerships and OECD ILE.

## SECTION 6.
## POINTS OF POLICY INTEREST

Only one point of policy interest is reported in this fifth milestone report.

It is about the **agency readjustment** that is occurring among priority learners and their teachers, families, whānau and school leaders. Evidence of this collective agency readjustment phenomenon was prolific in the multiple analyses of data compiled for this milestone report.

All four of these groups, and business leaders in some communities, are coming to terms with re thinking their roles and responsibilities around learning among priority learners. Many priority learners are now aware of the passive state they used to be in and are enthusiastically and collectively increasing responsibility for their own learning. However, participant students do not want to be put out in front to explore learning in isolation to those adults that make them feel safe, capable and confident. They are asking their teachers, families and whānau to become joined at the hip with them as they expand their learning boundaries.

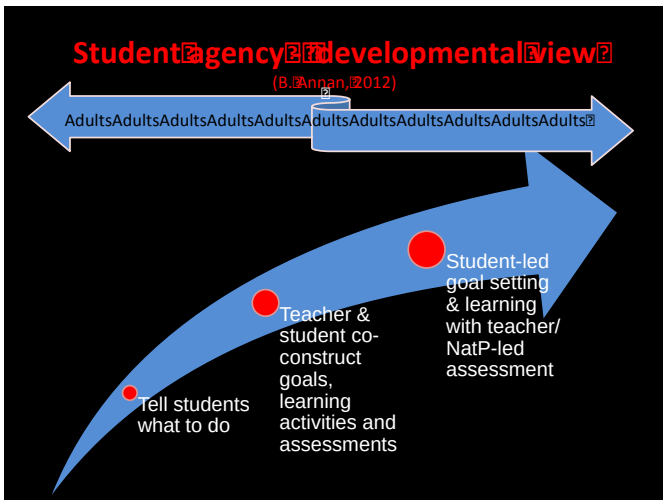
As priority learners grow in learning stature, teachers, school leaders, family and whānau are facing up to adjusting their agency around the learning. It is not a pendulum swing from telling priority learners what to do and now leaving them to their own devices. Rather, it is a matter of learning how to slide across a learning support continuum from telling priority learners what to do, to co-constructing things with them or leaving them to self-determine learning. There is also a reciprocal child-to-adult arrangement unfolding. Within the digital learning environment, in particular, child-to-adult support for learning is common. Youngsters are telling teachers, leaders, mums, dads, nana and granddad about how to learn in the modern world. They are also supporting them to figure things out and sometimes leaving adults to figure out things for themselves.

*Changing nature of learning supports*

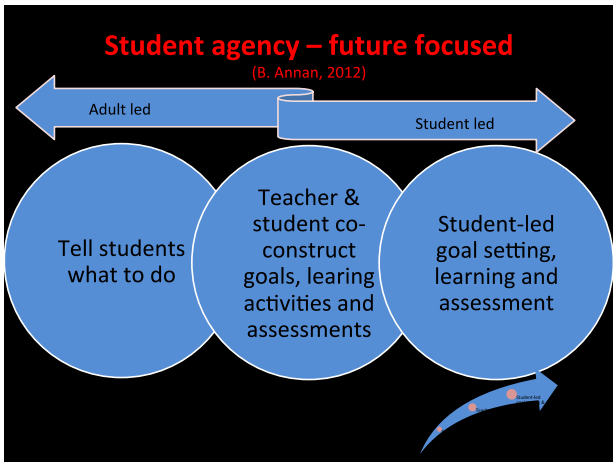
Two PowerPoint slides used by the UniServices programme director in LCN facilitation training and regional networking sessions in 2013 explain the way three learning supports have changed, that is 'tell them what to do', 'co-construct what to do' and 'leave them to figure out what to do'.

The first slide presents a developmental perspective of three supports for learning. The theory is that at a young age, students do not know what they do not know so they need to be told many things. As students get older, they are given opportunities to co-construct learning activities. As they become young adults they

are afforded greater responsibility to drive their own learning but adults are still in control, for instance they have a heavy hand in assessments of learning. This arrangement fits with hierarchical elements of the industrial era of schooling and society within which children learned what they were told to learn prior to progressing to adult citizenship and earning a living.




The second slide below outlines a very different theory. Humans, both young and old, are in a liberalized society within which hierarchies are less influential and digital technologies have made knowledge easily accessible to all. Grandmothers are learning from grandchildren as much as they are passing on their wisdom to them. Social and interest-based learning networks are so prolific that youngsters have often come across curriculum knowledge before lessons begin. Developmental norms are flattening as learning is both adult and student driven. At times, adults are in the driver's seat making decisions about whether students should be told, invited to co-construct or left to their own devices around learning activities. Then there are other times when youngsters are driving learning decisions. It means everyone in the learning environment needs to slide across the support options and think what is best for a particular situation, from lots of structure through to freedom.



*Agency readjustment - a growing theme*

A focus on agency readjustment has been a theme of LCN since the outset of the strategy. All four previous milestone reports refer to activating collective responsibility among priority learners, teachers, families, whānau and leaders. A set of references from those milestone reports in the four tables below show a progression of thinking about agency readjustment over time. In the 'visioning' phase of the strategy (milestone 1), the thinking centres of growing collective responsibility and believing in the capability of the people involved in the equity challenge. During the 'understanding phase' (milestone 2), student agency emerged as a popular change priority but not without strong connections with family, whānau and community. During the 'early implementation phase' (milestone 3) agency readjustment among priority learners, teachers, families, whānau and leaders became a widespread development interest. It moved to the foreground of the strategy and other more traditional school development interests faded into the background. As the 'implementation' phase moved into full swing for most networks, agency readjustment moved center stage. It occurred in many different ways; students stepping up, teachers working out how to adjust down their control, parents sharing their knowledge, leaders figuring out new ways to support students, teachers and families.

**LCN Milestone 1.** Page 3.

The vision is about inviting priority student groups supported by their families, teachers and school and community leaders to take responsibility for learning and changing together in networks to achieve an overall lift against National Standards and Ngā Whanaketanga Rūmaki Māori. Underpinning this vision is a strong belief that priority student groups, their teachers and school leaders as well their families and communities, inclusive of iwi, are inherently capable people. Looking at the equity challenge through that lens suggests that expertise resides within those groups to grow knowledge and skills together in order to explore common interests and to solve complex educational problems. This strategy, therefore, is about creating collective learning opportunities for those groups to find that expertise and use it to grow healthy and sustainable learning environments. The main mechanism for that capability search and environmental growth is lateral networked learning and change within and across those groups.

**LCN Milestone 2. Page 4**

Student voice to student agency. Most network leaders have discovered that student voice to inform teacher/leader practice improvements is important for school effectiveness but falls short of growing student responsibility to improve their own learning practices. Furthermore, there is a growing realization that student agency connected to strong family-whānau community-iwi support is more powerful than trying to ratchet up more supply-driven teaching and leadership. Mind-shifts are occurring in line with shared student-family-teacher-leader responsibility.

**LCN Milestone 3.** Page 8.
Widespread success of students, teachers and families growing collective agency in analyzing achievement levels in relation to learning and change priorities is unlikely to occur without the strategic support of school, network and Ministry leaders. Those leaders can positively influence important decisions, such as best areas for investment, and power and control factors.
Page 121
Recommendation 10.8. Alter the Ministry's five priority development areas; organization, instruction, evaluation, cultural and linguistic responsiveness and connections with families. Some of the terms point to past-focused schooling systems whereby teaching and instructional leadership dominate learning. Future-focused development areas, such as student agency and 21st century learning environments, are assumed within the current five development areas rather than made explicit. In other words, students taking greater responsibility in their own learning with support from family and whānau and multiple sites of learning are in the background and yet they are foreground areas of development in the LCN strategy.

**LCN Milestone 4. Page 27/28**
A second change priority of significant interest to almost all networks is to focus on **student agency.** There is a noticeable increase in interest to grow knowledge and understanding about student agency. As they dip into that knowledge growing exercise and gain confidence to trial the way priority learners can exercise more agency in their own learning, there is a growing realization that it is not all about student agency. It is more about agency adjustments of all players surrounding student learning. As students take more responsibility as agents of their own learning, teachers have to adjust down their responsibilities. For families and whānau it is a matter of shifting their agency from support to peripheral schooling matters, such as fundraising and festival-style support, to a meaningful support role to their children's learning. Through LCN networking, each group is being encouraged to become more involved in deciding what actions they could take so that they take the appropriate level of responsibility to lift student learning to national expectations. Network leaders are reporting an increased self-belief that priority learners are capable of stepping up to the new active role in their learning. They also acknowledge that they are only at the very beginnings of the agency re-adjustment process.

How can policy capitalize on this agency readjustment theme? There are a number of ways to think about that question. One option is to just allow the theme to spread naturally across the lateral networking environment that is growing within the NZ schooling system. Another option is to take the idea from LCN and intentionally diffuse it into future-focused policies. A third option is to build a project around the concept and manufacture opportunities for priority learners, their teachers, families and whānau to understand more about it and explore it in more depth.

There is one caution around branding **agency readjustment** as one of the next big ideas, among key groups involved in priority learners' learning environments. That caution is that if old thinking sits under the new words, efforts to grow this agenda will be undermined by past-focused mindsets. One way to avoid that from happening is to follow a disciplined inquiry process like the LCN one, which addresses old thinking as new thinking emerges.

## SECTION 7:
## RECOMMENDATIONS

1. The Ministry prepare a brief set of PowerPoint slides about the positive National Standards data for priority learners and UniServices prepare a brief set of slides outlining their thinking about the reasons for the success. Both parties then send that information to networks leaders and discuss it at regional networking days in term 1.

2. Encourage network leaders to complete a template showing their thinking about the relationship between their LCN activities and the National Standard's data for their participant priority learners. This template will inform Milestone 6, which will inquire more deeply in to the success factors of the LCN strategy.

3. Encourage network leaders to use their thinking outlined in No.2 above to create a presentation for the LCN national networking 2-day event on 6/7 July.

4. Invest in a publication that transforms the LCN induction manual into a document that is user-friendly for any lateral learning strategy that is being introduced into the NZ schooling system.

# *APPENDIX 1*

# LCN ACTIVITY ANALYSIS

| Theme | Activity | Names of networks | No of Networks |
|---|---|---|---|
| **Understanding LCN network Theory** | | | |
| **PowerPoints** | PowerPoints explaining LCN to Community, Teachers, Whanau/Family<br>Video – Kids exploring networking | Papakura, Twin Coast, Te Awahou, Te Puke | 8 |
| **Animations** | Animations: Chris Theobold, Jenny Jackson, Mindshift jpeg, graphic process and changes | Seaview, Whitestone, Invercargill, Mahurangi | 4 |
| **Self-Review** | Network Self – Review Map | Northern Special | 1 |
| **Identify the Achievement Challenge** | | | |
| **Writing** | Writing:<br>Successful motivated writers – across curriculum<br>Conventional: Writing<br>Identified a specific target group for **writing** within and across school | Auckland Central, Kawhia Moana, SWELL. Ako Hiko, Seaview, Reporoa | 6 |
| | S/T/L F – target group writing<br>e.g. students Below standard in 2 areas but strong in One ER | Auckland Central Eastern Rotorua, Twin Coast, Kaikohekohe | 4 |
| **General targeted Achievement** | Selected school targets in separate curriculum areas unified by network change priorities | Pakuranga West, Nth Wairoa, Te Awahou, Te Puke, Patiki, Twin Coast | 6 |
| | Each school has targets related to improving student outcomes, in own curriculum area through use of digital technologies | Pakuranga West | 1 |
| **Target groups** | Target group - low scores in 5 year old entry tests | Papakura | 1 |
| | Target group - unmotivated towards learning | Papakura | 1 |
| | Target group – Low key competences | Papakura | 1 |
| | Network cohort identified - low in 2 areas but high in another | Eastern Rotorua | 1 |
| | Cluster wide investigation into retention students as they seamlessly transition across our schools in highly competitive community (i.e. private schools) | Pakuranga West | 1 |
| | Cohort across regions – Yr. 4-8 Students | Van Asch | 1 |
| **Engagement** | To increase engagement of selected students not making progress<br>Successful engaged learners<br>To Achieve, first there must be engagement | Northern Special Schools, Patiki, Van Asch | 4 |
| **Transition** | To encourage seamless integration/transition of learning across school so that our schools are schools of choice | Pakuranga West | 1 |
| **Early years** | Accelerate learning of students in early years | Papakura | 1 |
| **Leader Inspired** | How Might we redesign pedagogy for our learners to be future focused, collaborative and creative | Pakuranga West | 1 |
| **Investigate current learning environment** | | | |
| **Maps** | Student learning Maps – student voice captured, videoed, showing | Nearly every | All |

| | | | |
|---|---|---|---|
| | student interests and learning preferences | network in some form | |
| | Taped/videoed 'maps' T1/T2 | Auckland Central, Kawhia Moana, Naenae, Invercargill, Whitestone, SWELL | 7 |
| | Annotated Maps, T1/T2 | Auckland Central. Kawhia Moana, Northern Special, Invercargill, Naenae, Twin Coast | 6 |
| | Maps of teacher practices, teacher perception classroom learning environment, change priority | Naenae, Eastern Rotorua, Patiki, Auckland Central, Papakura | 5 |
| | Mapping to identify change priorities<br>Maps to analyze current practices and practices to change –River Analogy | Twin Coast, Te Awahou Reporoa, Patiki, Nth Wairoa, | 5 |
| | Teachers developed digital maps using Inspiration (TC)<br>Students as leaders sharing mapping | Te Awahou, Twin Coast, Kawhia Moana, Invercargill | 4 |
| | Student friendly maps for younger students | WAPA, Patiki | 2 |
| | Maps of parents 'learning environment<br>Reporoa –Parents 'Stories' knowing themselves as learners, sharing with students, comparing | Reporoa, Patiki, | 2 |
| | Digital Maps | Twin Coast | 1 |
| | Learning Maps of school digital 'pilot classes' | Ako HIko | 1 |
| | Maps as part of Student/Teacher interview | WAPA | 1 |
| | Maps identifying practices for change | Patiki, Reporoa | 1 |
| | Gathered indicators of success - S/T/L/F | Auckland Central | 1 |
| **Analysis of practice** | Leaders used River Analogy to identify necessary changes to practice by students and families | Patiki, Reporoa | 2 |
| | Student/Teacher/Parent Maps<br>Students sharing their maps with their parent maps noticing similarities/differences – Reporoa<br>Students modeled Mapping process at network meeting - Kawhia | Patiki, Reporoa, Kawhia Moana | 3 |
| **Surveys** | **Survey** teachers, students and whanau of targets students (a set of agreed questions) related to achievement Challenge | Auckland Central, Eastern Rotorua, Mahurangi, | 3 |
| | Parent survey perception of learning community | Pakuranga West, | |
| **Indicators of success** | Gather indicators of success from S/T/F/L | Nth Wairoa, Patiki | 2 |
| **Interviews** | Interview (2), behaviour checklists; from multiple perspectives | Van Asch, Kaikohekohe | 1 |

| Identify change priorities | | | |
|---|---|---|---|
| **Change priorities** | Student Agency | Auck Central, Kawhia Moana, Whitestone, Twin Coast, Reporoa, Seaview, Ako Hiko, Naenae, Eastern Rotorua, Van Asch, WAPA Eastern Rotorua | 13 |
| | Involvement/engagement family whanau; community engagement | Kawhia Moana, Whitestone, Reporoa, Twin Coast, Ako Hiko, Eastern Rotorua Seaview, Naenae, WAPA | 9 |
| | Digital Motivation/E- learning/Digital tool/ Digital Pedagogy | Auck Central, Ako Hiko, Eastern Rotorua, Seaview, Nth Wairoa, Te Awahou, Reporoa, Pakuranga West, Kaikohekohe | 9 |
| | Future Focused Learning/21st Century learning | Whitestone, Nth Wairoa, Twin Coast, Ako Hiko, Van Asch, Te Awahou, Naenae | 7 |
| | Teacher Agency/PLd/Capability | Kawhia Moana, Papakura, Ako Hiko, Eastern Rotorua, Reporoa | 5 |
| | S-F-T-L voice linked to teacher inquiries | Eastern Rotorua, Invercargill, Whitestone, Twin Coast | 4 |
| | Pedagogy | Auck Central, Eastern Rotorua Patiki | 4 |
| | Engagement for learning | Northern Special, Reporoa, Te Puke | 3 |
| | Agency of S/T/F/L | Reporoa, Twin Coast, Eastern Rotorua | 3 |
| | Learning Environments | Van Asch, WAPA | 2 |
| | Scaffolding Oracy/learning from oral Literacy | Mahurangi/Papakura | 2 |

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|---|---|---|---|
| | Transition | Papakura, Pakuranga West | 2 |
| | Connectivity | Auck Central | 1 |
| | Sustainability | Auckland Central | 1 |
| | Authenticity | Auck Central | 1 |
| | Lateral Learning | Van Asch | 1 |
| | Valuing children's oral languages and experiences | Mahurangi | 1 |
| | These priorities now underpin all we do. Engagement family whanau Student Agency, Active learning Introduction Digital Tools, e-Learning<br>Engagement in Learning<br>Future Focused Learning<br>Enhance Connectivity<br>Pedagogy<br>Learning Environments<br>Lateral Learning relationship | Naenae | 1 |
| **Process around change priorities** | Change priority graphic | WAPA, Auckland Central, Whitestone, Seaview, Mahurangi | 5 |
| | Logo depicting change Priorities | Papakura, WAPA, Whitestone, Seaview | 4 |
| | Network parents and families deciding indicators | Patiki, Reporoa | 2 |
| | Network Parents deciding change priorities and indicators | Nth Wairoa, Patiki | 2 |
| | Network Teachers deciding indicators for success, actions and measures for monitoring s/t/L//f | Patiki | 1 |
| | Probe 3 used to narrow indicators for change priorities and inform Network plan | Patiki | 1 |
| | Leader inspired<br>Scaffolding Oracy/learning from oral Literacy<br>Valuing children's oral languages and experiences | Mahurangi | 1 |
| **Create a plan** | | | |
| **Network plans** | Network Plans -As Google doc – updated each meeting | Auckland Central, Twin Coast, Papakura, Patiki, Reporoa, Eastern Rotorua, Ako Hiko, Seaview, Pakuranga West | 9 |
| | 2015 plan includes school and network actions including plans fro measuring monitoring | Papakura, Kawhia Moana, Eastern Rotorua, Auckland Central | 4 |
| | Refining plan with participants<br>Use of Probe 3 to inform/refine details of plan<br>Use of Probe 3 and adaptions to measure change priorities | Reporoa, Patiki, Nth Wairoa, Eastern Rotorua | 4 |

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| | Network Plan | Ako Hiko, Te Awahou, Pakuranga West | 3 |
| | Network plan as an image<br>School triangular image depicting change priorities<br>Circular image of change priorities taking into account principles: Relationships, Learning Environment, Pedagogy, Holistic expanded Inquiry NSS | Seaview, Northern Special Schools, Papakura | 3 |
| | Specific targets related to improving student achievement | Pak West | 1 |
| | Sharing network plan with parents | Whitestone | 1 |
| | Drafting a network plan | Patiki | 1 |
| | Action Plan developed for 2015 | Eastern Rotorua | 1 |
| **School plans** | School plans, School plan as a graphic | Auckland Central, Papakura, Kawhia Moana, Whitestone, Naenae, Seaview, Nth Special, WAPA, | 8 |
| | Change priorities embedded in school plans | Naenae, Seaview, Whitestone, Kawhia Moana, Auckland Central, Twin Coast, Nth Wairoa, Eastern Rotorua | 8 |
| | LCN Integrated in school strategic plan | Auckland Central, Kawhia Moana, Papakura, WAPA, Naenae, Seaview | 6 |
| | We synthesized the themes in our chart and from there organized our priorities, network goals, and outcome measures | Van Asch | 1 |
| | Cohort plans<br>Collaborative identified goals | Van Asch | 1 |
| | Learning Maps embedded in school plans | Naenae, WAPA | 2 |
| | Specific targets related to improving student achievement | Pak West | 1 |
| | Participant ownership of the plan | Naenae | 1 |
| | Syndicate Plans | Naenae | 1 |
| **Individual student plans** | Target tracking documents, SMS for targeted students | Seaview, Naenae | 2 |
| | Individual Student plans<br>Students writing own plans | Northern Special<br>Invercargill | 1<br>1 |
| **Implementing the plan** | | | |
| **Collaborating** | Combined staff meetings for shared understandings, sharing best practice, sharing inquiries, Across school LCN toolkit Smackdown (Kaikohekohe) | Seaview, Ako Hiko, Nth Wairoa, Te Puke, Auk Central, Twin Coast, Eastern Rotorua, | 10 |

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| | | Mutukaora, Nth Special, Muriwhenua, Papakura | |
| | S/T/F workshops on change priorities. School wide, as a network | Auckland Central, Muirwhenua, Nth Wairoa | 3 |
| | Teacher sharing via Google groups<br>CORE ed facilitating teacher networking beyond classroom – VLN<br>Google +, GAFE | Muriwhenua, Twin coast, Kaikohekohe | 3 |
| | Student collaborating and presenting around change priorities, student present to BOT, Students presenting network meetings, Regional networking | Kawhai Moana, Invercargill, Nth Wairoa | 3 |
| | Google sites | Kaikohekohe, Auckland Central | 2 |
| | Network meetings sharing school trial successes, shared useful readings, resources | Kawhia | 1 |
| | Network learner fun day – collaboration/networking | Seaview | 1 |
| | Lateral Learning is a change priority occurring at all stakeholder levels – people to people and digitally | Invercargill | 1 |
| | Involving wider stakeholders experts e.g. teacher aides, therapists, specialists, siblings - | Northland special schools | **1** |
| | Develop e-networking | Nth Wairoa | 1 |
| | Involve students working laterally | Twin Coast | |
| **Student voice/agency** | Teacher gathering video clips of student voice | Most | Most networks |
| | Student voice<br>• Gathered Student learning journals<br>• Term reflections<br>• Topic reflections<br>• 3 way conferences<br>• teacher modeling books<br>• learning pathways<br>• Co- constructed purposes for learning<br>• Co – constructed success criteria | Papakura | |
| | Students encouraged to talk about learning next steps etc./ act on teacher feedback<br>Less focus on surface features<br>Student giving feedback to one another | Kawhia Moana, Kaikohekohe | 2 |
| | Formed Boys writing group/ student writing group<br>Encouraging collaborative writing | Kawhia/SWELL | 2 |
| | Mindcraft and other learning platforms to engage learners giving them voice and choice<br>Student active inquiries | Eastern Rotorua Kaikohekohe | 1 |
| | Ensure students know about their learning | | 1 |
| | Have students lead learning | Kawhia Moana | 1 |
| | Student Lead open timetables for learning<br>Student lead modules – loom bands, language learning | Kawhia Moana | 1 |
| **Parent/whānau** | Students sharing speaking to parent groups | Invercargill, | 3 |

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| **/community involvement** | | Kawhia, Nth Wairoa | |
| | Shared understanding to develop the network – parent/student | Reporoa, | 1 |
| | Parent workshops throughout year | Invercargill | 1 |
| | Reciprocal partnerships with whanau | Mahurangi | 1 |
| | Parents working in classroom where students have asked for help | Kawhia Moana | 1 |
| | Implementing school transition program that support parental engagement | Papakura | 1 |
| | Videoing cross school parent meetings | AC | 1 |
| | Parent online access to student writing | Kawhia | 1 |
| | Parent workshops and open afternoons/ shared understanding learning expectations, agency/more regular reporting progress | Kawhia, nth Wairoa, Whitestone, Invercargill | 1 |
| | Parent responses to student learning – involving them in problem solving innovation, collaboration and planning | Kawhia Moana | 1 |
| | Family whanau meeting to collaborate on charter – school<br>Increase consultation with parents throughout learning process | Kawhia Moana<br>Northern Special | 1 |
| | Parent teacher meeting cooperative goal setting and agreed actions<br>Pre School morning teas - | Papakura | 1 |
| | Implementation Reading Together Programme - parents | Papakura | 1 |
| | Chromebook training for parents | Kaikohekohe | 1 |
| | Involve wider community | Eastern Rotorua | 1 |
| | Cluster pamphlet --- to wider community | Pakuranga West | 1 |
| **Teacher PLD** | Supports to promote student well being including outside agencies<br>Employed an Engagement profile specialist to train staff<br>Core Education – technology infrastructure spt, Teacher PLD,<br>Connecting teachers beyond classroom<br>Oral Lang PD Action Plan<br>RTLB used to narrow school focus/ plan | Kawhia Moana,<br><br><br>Northern Special<br><br><br>Kaikohekoe<br>Papakura<br>Papakura | 5 |
| | Teacher PLD on mapping, student agency | Auckland Central, Twin Coast, Whitestone, Nth Wairoa | 4 |
| | Targeted teacher PLD – writing: LCN aligned with ALL contract, VLN, math 'Talk Moves'<br>Cluster Literacy Group | Eastern Rotorua, Auck Central, Mahurangi | 3 |
| | Network– teachers developing a shared understanding of student agency | Twin Coast, Auckland Central, Nth Wairoa | 3 |
| | Planned experiences for teachers<br>Oral languages, visits outside school | Papakura, SWELL | 2 |
| | Joint PLD Digital Technologies | Seaview | 1 |
| **Teacher inquiry** | Change Priorities Linked to Teacher's Inquiry Do we as teachers | Kawhia Moana, | 5 |

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| **– changing role for the teacher** | sometimes slow the learning down for our students? KAWHIA MOANA Teacher Inquiry<br>Adjust teacher practices as network school, class | Eastern Rotorua, Auckland Central, Kawhia Moana Whitestone | |
| | Develop shared understanding regular network teacher – leader by enthusiast – agency, literacy workshops, identifying pockets of promise, and practices that need changing. Ensure teachers act on student voice | Twin Coast, Whitestone, Eastern Rotorua, Kawhia Moana Kaikohekohe | 5 |
| | Teacher inquiry around identified target students | Seaview, Naenae, Auckland Central, Eastern Rotorua | 4 |
| | Embedding LCN in teacher inquiries<br>Teacher BlogSpot linked to inquiry student writing<br>Teacher inquiry – minecraft and other platforms for learning | Mahurangi, Eastern Rotorua, Kawhia Moana, Papakura | 2 |
| | Changed role of teacher to ensure student make efficient learning decisions<br>Teacher flipping classroom<br>Teacher role to build student confidence, take risks | Kawhia Moana, Ako Hiko | 2 |
| | Closer observation of teacher practice | Papakura | 1 |
| | Teacher Focus group | Papakura | 1 |
| | Achievement Team Meetings | Papakura | 1 |
| | Teacher modeled lessons/practices with ECE and school | Papakura | 1 |
| **Developing LCN sites** | Develop Education trust site, LCN sites, blog sites, VLN, Google sites | | 14 |
| | Advertising LCN: Newspaper clippings, community, pamphlet, Principal BlogSpot | Naenae, Pak West, Whitestone | 3 |
| **Digital** | Across school I-pad pilot classes, across school learning together – ChromeBooks<br>Provide opportunities to interact beyond classroom<br>Students have choice to use books of digital<br>Student Online skill sheets | Twin Coast, Ako HIko, Eastern Rotorua, Kaikohekohe Kawhia Moana Kawhia Moana | 5 |
| | Access to Google writing/ Google doc training | Auck Central/ Reporoa | 2 |
| **Authentic audience** | Created Shared purposeful experiences with authentic audience – (Writing) | SWELL, Kaikohekohe | 2 |
| | Involve students decision making re authentic contexts for writing | Auckland Central, Kawhia Moana | 2 |
| | Adjusting ICT use as more authentic learning tool | Auck Central | |
| **Student workshops** | High quality product writing | Kawhia Moana, Ako Hiko | 2 |
| | Student Writing Workshops | SWELL | 1 |
| **Moderation** | Cross network moderation of writing (L/T) | Auckland Central | 1 |
| | Information sheet developed for cross-network sharing day | NSS | 1 |
| | Making fewer assumptions about vocabulary and explicitly teaching topic vocabulary | Mahurangi | 1 |

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| | Close collaboration student/Teacher using Chrome books – 2 classes per school | Ako Hiko | 1 |
| | Providing digital Opportunities for all our learners | Pakuranga West | 1 |
| | Students introduced to Google docs/green screening | Kaikohekohe | 1 |
| **Assessment tools** | e- Asttle as an assessment tool | Auckland Central | 1 |
| | Ensuring use of effective Feedback (T/S) | Auckland Central | 1 |
| | Teachers developed rubric writing skills, TIA must haves in writing lesson, collection writing samples | Kawhia Moana | 1 |
| **Cultural responsiveness** | Teachers trying to include Pasifika elements into everyday teaching | Mahurangi | 1 |
| **Learning environments** | Using student preferences learning environment to motivate and engage students with curriculum | Northern Special | 1 |
| | Flexible grouping / accelerated programmes NE | Papakura | 1 |
| | Making learning fun | | 1 |
| | Inclusive classroom culture – open door | Kaikohekohe | 1 |
| **Hapu/Iwi** | Engagement with local hapu, Te Roro O Te Rangi Education Initiative, as a change team.<br>Engagement with Marae staff<br>Looks at local stories | Eastern Rotorua, Reporoa | 2 |
| **Strategic resourcing** | Leaders targeted requests MOE for funding – devices, resourcing etc.<br>Resources develop for parents to use with children at home – reading alphabet games, book buddy packs, math packs<br>Access to Google writing | Auckland Central, Papakura | 2 |
| **Transition** | Pre – school liaison visits – developing shared understanding of practice - expectations | Papakura | 1 |
| | Learning Assistants full time in NE classes | Papakura | 1 |
| **Pedagogy** | Change in pedagogical practice to look at environments, people that students best engage with | Northern Special | 1 |
| | School's change priorities embedded in schools math, reading PLGs | Auck Central | 1 |
| **Relationships** | Relationship building – open minded vs deficit | Papakura | 1 |
| **Transition/ partnership** | Developing partnership with ECEs and joint workshops | Papakura | 1 |
| **Data measuring** | Robust Data collection through video and observation of students, better analysis | Northern Special | 1 |
| **Monitoring/tracking/evaluating** | | | |
| **Mapping** | Using Maps T1 T2 to measure change priorities | Auck Central, Kawhia Moana, WAPA, Naenae, Seaview, Invercargill, Whitestone, | 7 |
| | Evaluating changes on learning Maps priority learners | Auckland Central, Whitestone, Kawhia Moana | 3 |
| | Use Maps to highlight developments in lateral learning | NSS, Te Adamou | 2 |
| | Measures of success gathered – s/t/L/f | Invercargill | 1 |

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| | NEMP T1 Time 2<br>Mapping | | |
| | Network Self- Review Map - use as evidence – to create stronger connections We're all in this together | Northern Special Schools | 1 |
| **Formative assessment** | School CAP tool used identify and monitor target students | Kawhia Moana | 1 |
| | Survey to monitor greater engagement writing | Kawhia Moana | 1 |
| | Standardized learner profile rubric | Northern Special | 1 |
| | Engagement and Inquiry tracking monitoring form | Northern Special | 1 |
| | Student individual engagement ladder | Northern Special | 1 |
| | Observation Happiness Tool – NSS – with indicators | Northern Special | 1 |
| | Assessments based on noticing changes time 1, time2: improved, stayed same, or worse | Van Asch | 1 |
| | Use of case studies | Van Asch, NSS | 1 |
| | Family/Whanau Engagement Matrix | Papakura | 1 |
| | Matrix indicators for successful engaged leaners: compiled by stakeholders | Patiki | 1 |
| | To share and interrogate achievement data to directly inform teaching and learning practice and accelerate progress | Ako Hiko | 1 |
| | More consistent assessment, | Mutukaroa, Auckland Central. | 2 |
| | Assessment used formatively | Mutukaroa | 1 |
| | Visible assessment - working closely with teachers has improved communication and made assessments visible to all | Mutukaora, Auckland Central | 2 |
| | Students knowledge of the alphabet and high frequency words improved. Mutukaora have noticed shifts in student data Programme having a great impact. | Mutukaroa | 1 |
| **Parent evaluation** | Tracking accelerated progress | Mutu, Ako HIko, Papakura | 3 |
| | Parent workshop evaluating action plan<br>Parent feedback – feel they have impact on student's learning due to strategies and resources given | Invercargill, Mutukaroa | 2 |
| | More consistent monitoring priority students | Mutu, Papakura | 2 |
| | Develop systems to measure, track monitor - network Wide<br>School wide – e.g. maps | Auckland Central | 1 |
| | Coherence across all schools in change priorities and evaluating change priorities | Naenae | 1 |
| | Graphic: School Progress and changes | Mahurangi | 1 |
| **Systems for tracking** | Data informs us that achievement has improved. Student achievement Data Network Summaries. | Papakura, SWELL, Ako Hiko, Mutukaroa, Eastern Rotorua, Auckland Central, Van Asch, Mahurangi | 8 |
| **Evaluative probes** | Probe 3 to track and monitor change priorities and to confirm positive practices and those that required improvement | Nth Wairoa, Twin Coast, Eastern Rotorua, Naenae, | 7 |

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|---|---|---|---|
| | | Seaview, Invercargill, Patiki, Patiki | |
| **Student voice** | Video /student voice identifying changes to their writing | Kawhia Moana, Whitestone, Naenae, NSS | 4 |
| | To embed and capture student voice | Eastern Rotorua | |
| | Rubric Student agency across year levels | Whitestone | 1 |
| | Children involved in assessments | Mutu | 1 |
| **Teacher voice** | Teacher voice – general; learning conversations, partnerships and impact on child's learning | Mutukaroa, Invercargill, Kawhia Moana, Eastern Rotorua, Twin Coast, Mahurangi | 6 |
| **Evidence Statements** | Statements from networks and schools, video clips | Seaview, Auckland Central, Papakura, Naenae, Nth Wairoa | 5 |
| **Interviews** | Collaborative interviews | Auckland Central, Van Asch, Kaikohekohe, SWELL, Ako Hiko | 5 |
| **Appraisal** | Appraisal/Inquiry centered around change priorities | Invercargill | 1 |
| | Maps as a transitional tool | Twin Coast | 1 |
| | Need to engage parents targeted with students learning: writing/math | Eastern | 1 |
| | There has been a shift in parent thinking with regard to student agency and students taking responsibility for their learning | Nth Wairoa | 1 |
| **Tracking transition** | Tracking cohorts as they transition | Eastern Rotorua Papakura | 3 |
| | To review and implement school transition programme that supports parent engagement | Papakura | 1 |
| **Case Studies** | | Van Asch, NSS, WAPA | 3 |
| **IEPs** | Student IEPs developed lead by students include parent and teacher input<br>Students describe change priorities in own language | Invercargill, Kawhia Moana, Naenae | 3 |
| **Moderation** | Across school moderation of writing – L/T | Seaview, Auckland Central, Ako HIko | 3 |
| **Network plan** | Use network plan as a tracking, monitoring document at meetings | Reporoa, Patiki, | 2 |
| | Closer tracking monitoring target students | Seaview | 1 |
| **Network evaluators** | Network Evaluators plan to continue to meet regularly – assessing, monitoring SA and change priorities and lead this component at network meetings | Patiki, Nth Wairoa, | 2 |
| **Students Self -** | Students identifying next steps for S/T/F/L | Naenae, Nth | 2 |

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| **Review** | Students /Parents reviewing change priorities | Wairoa | |
| | Pre and Post Testing - Oral Lang - measurement effect sizes | Papakura | 1 |
| **Roll data** | Falling Roll data | Pakuranga West | 1 |
| **Parent involvement** | Assessment gains more regularly shared with parents | Mutu | 1 |
| **Outcomes from inquiry** | Expanded inquiries lead to increased engagement – music, involvement in class<br>Decrease negative disruptive behaviour<br>more appropriate supports throughout day<br>better ideas strategies to use<br>Increased quality of relationships S/T/F | Northern Special Schools | 1 |
| **Measuring F/W engagement** | Worked with SAF to develop parent engagement matrix… completed by senior Management and BOT | Papakura | 1 |
| **Next Steps** | | | |
| **Students** | Continue to develop agency and across school interactions with a sharper focus on learning<br>Continue purposeful interactions with students at network meetings | Seaview, Auckland Central, Kawhia Moana, Naenae | 4 |
| | Student voice quote: *"I used to get quite frustrated. It felt like I had someone with me all the time and it was like this pressure. I didn't feel like I could say anything because I thought everything was like decided for me. I don't need help or others to tell me what to do and felt like I had to listen to two people telling me stuff. It was embarrassing in class because you had to sit by me and other kids didn't have someone with them. It was like annoying a lot. It's like someone is there watching what you do and I don't feel normal."*<br>What's changed?<br>*"I feel better and I don't feel the same pressure. I'm happier and less frustrated and I liked that you listened and go sit in a different place and I can ask you for help and you come over. I like how I can use your iPad and do my work. I love computers. I can email the work that day and do more at home. Dad has made a folder so your emails go into it.*<br>*A big problem before was the FM. I just didn't like it and it's better because I'm not using it. Yeah, it's just better."* | Van Asch | 1 |
| | Students included in analysis, review and next steps | Naenae | 1 |
| | Student and parent surveys conducted | Naenae | 1 |
| | Internet based learning | Naenae | 1 |
| | Student request to visit other schools | Naenae | 1 |
| | Hands on activities requested by students | Auckland Central, nth Wairoa | 1 |
| | Changed Language when talking about learning | Auckland Central | 1 |
| | Plan to have students involved and leading moderation | Auckland Central | 1 |

| | | | |
|---|---|---|---|
| | More personalized writing | Auckland Central | 1 |
| | Student feed-forward tool | Auckland Central | 1 |
| | Examples of digital feedback | Auckland Central | 1 |
| | Student friendly graphic around change priority learning map | Auckland Central | 1 |
| | Have students involved and leading moderation | Auckland Central | 1 |
| | Teachers have noticed that Students value doing their own assessments | Mutukaroa | 1 |
| | Small groups of students would benefit from<br>• improved formative assessment<br>• Improved clarity on learning intentions<br>• Specific consistent feedback LI and SC<br>• Given more opportunities to make choices<br>• Sharing and discussing with students relevance of their learning<br>• Improved systems around goal setting | Nth Wairoa | 1 |
| **Teachers** | Across school teacher focus on similar teacher inquiries, stage learning (digital)<br>Develop math Cluster | Seaview, Ako Hiko, Eastern Rotorua., Auckland Central, Invercargill | 5 |
| | Huge shift in Resource Teacher Deaf's thinking and approach – videotaping interviews and practice | Van Asch | 1 |
| | Links to strategic plan appraisal | Naenae | 1 |
| **Parents** | Emails to families | Naenae | 1 |
| | Blogging | Naenae | 1 |
| | 1:1 device parent workshops | Naenae, Ako Hiko | 1 |
| | More learning happening at home | Auckland Central | 1 |
| | Teachers have noticed parents are engaging more meaningfully in student's learning,<br>Huge improvement family engagement school wide | Mutukaroa | 1 |
| | Teachers Notice that parents are starting to understand assessment data | Mutukaroa | 1 |
| | Looking more deeply into how we involve families and their role | Northern Special schools | 1 |
| | Further work still needed on parent whanau voice and involvement | Van Asch | 1 |
| **Strategic planning about how students learn** | Documenting our school's changes | Van Asch | 1 |
| | Bigger focus on How students learn | Van Asch | 1 |
| | Further spread current learning laterally within own organization and also with mainstream schools | Van Asch | 1 |
| | Looking at our changed practices – not just achievement but objectives, environment and people too. | Northern Special | 1 |
| | Action Plan 2015 | Eastern Rotorua | 1 |
| | Looking at how pedagogy is personalized | Northern Special | 1 |
| | Whole school PD around engagement profile and scale | Northern Special | 1 |
| **Common** | Decision to use common standardized assessment tools | NSS – see | 1 |

| | | | |
|---|---|---|---|
| **assessment** | | artefacts<br>Happiness Profile | |
| | Genuine Collaborative practices established | Van Asch | 1 |
| | Looking at the what and how we collect information about students, especially from families | Northern Special Schools | 1 |
| | Marked measurable shift in Student Agency | Van Asch | 1 |
| | Student Case Studies – funding and resourcing as barriers | NSS | 1 |
| **Community** | Community engagement – dowse, wearable arts | Naenae | 1 |

## *APPENDIX 2*

# FACILITATORS GUIDE TO LCN NETWORKING

**See guide on next page**

Learning and Change Networks | Learn together. Change together. Grow together.

# LEARNING AND CHANGE NETWORK STRATEGY


# FACILITATION GUIDE

Table of Contents

# SECTION 1: INTRODUCTION TO THE Learning and change GUIDE

## 1.1 STRUCTURE OF THE Learning and change GUIDE

This Learning and Change (LCN) guide is intended primarily for those people who are facilitating Learning and Change networks. Its use is also expected to support networking among other groups who are involved with networks, including school staff, students, parents and Ministry of Education Staff.

The guide is structured to provide important background information about the LCN Strategy and to outline the LCN Networking Process. It is expected that facilitators will use the guide flexibly as they negotiate their way through cycles of Learning and Change with schools, families and students. The LCN guide has had ongoing revisions, reflecting the ongoing changes to the process informed by practice evidence from the networks. This process of ongoing development is expected to continue over time with future revisions becoming available for new networks emerging.

The guide is divided into sections to provide a succinct background to the LCN Strategy and an outline of the networking process. Methods to obtain and construct knowledge that will lead change, that is, ways of finding out what to change, are given particular emphasis because of their key role in the LCN process. The tasks of managing and making sense of the data are also discussed, one set of procedures being provided as an example for participants.

There are also references to videos throughout the guide, which show participants talking about their thinking and going about their network activities.

## 1.2 BACKGROUND TO THE APPROACH

### 1.2.1 The Reasons for developing Learning and Change Networks

The LCN Strategy, first developed in 2011, involves networks of students, schools, families, and whānau and, in some cases, communities who come together to create new learning environments that support increased student achievement. The intention of the strategy is to accelerate the progress of those students who have yet to meet National Standards in one or more academic subjects. The strategy is government funded and is coordinated by the Ministry of Education with a contracted implementation design and facilitation team from UniServices within the Faculty of Education at the University of Auckland. The Ministry's co-ordination team and the UniServices design and facilitation team provide support to participating networks.

From the outset, the intention of participant groups has been to progress student achievement by promoting equitable outcomes for students who are Māori or Pasifika or who have special educational needs, the development of responsive learning environments and interactive participation of all of those people who had an interest in students' learning. Activities were designed to build new knowledge within networks, exchange this knowledge with other networks and effect change at a systems level through development of leadership and evaluative capability in schools.

### 1.2.2 Education for today and tomorrow

The current world is rapidly changing, with the knowledge and skill that can support today's students in their present and future worlds changing accordingly. People across the globe are increasingly connected, linking through the use of digital tools and new practices. There are many students who with ease can connect with peers, sharing, exchanging and creating knowledge. These students can learn any time of the day and anywhere. If the benefits of these ubiquitous learning opportunities are to be extended to all students, then such situations must be manufactured. This does not mean simply replicating the patterns of those students and schools where connected learning is available and achieved. Authentic opportunity involves a good overlap between the culture of home environments and the culture of school environments. The nature of changes in learning environments must take into account the familiar practices of those for whom the change is intended (see Fullan, 2013; Hampson, Patton & Shanks, 2012; Hannon, 2014). Collaboration among members is critical in this regard.

LCN networks are seeking to increase the numbers of students for which opportunities for connection are available. They are exploring students' broad learning environments with the students so that participants (inclusive of the students) understand what best supports students to learn, what supports them to learn and what they and those who care about their learning want students to learn. Design of frames and processes to explore learning environments activate systematic and collaborative inquiry among students, teachers and parents and leaders. The design features also welcome the uncertainty associated with transformational change. The new world demands new roles of all participant groups in supporting student learning.

### 1.2.3 Theoretical basis of Learning and Change

Learning and Change has developed upon ecological theory that considers human interaction within broad environments. The student, within his/her social, physical and spiritual environment comprises the context in which he/she learns. The basis of activity is understood in the context of this interaction rather than in static or inherent qualities of either leaner or environment (see Bowler, Annan & Mentis, 2007). All participants are active in co-creating their learning environments and the knowledge emanating from it. An appreciative perspective permeates LCN, as participants are encouraged to take a positive lens on the learning environment and the actions of participants in their network. New learning environments and activities are developed upon those that are both supportive and existing. This requires culturally responsive learning environments, created by those who hold the particular cultural knowledge of the various worlds in which the students are, and will be, living and learning. Facilitators are mindful of encouraging the following:

1. Lateral learning connections among all participants,
2. Appreciation of positive supports and achievements
3. Active participation of all participants in students' learning
4. Cultural responsiveness within learning environments

### 1.2.4 Changes appreciated by networks.

Networks involved in the first two years of Learning and Change networks have noticed several changes. Some of these are listed below (from Annan & Carpenter, 2014):

- Early indications of accelerated progress
- New insights into students' learning that had not surfaced through routine methods of exploring learning environments.
- Students demonstrating fresh confidence, enthusiasm for learning and ability to articulate ideas about learning.
- The development of new teaching and learning relationships as participants share and create knowledge across multiple learning environments. This has included collaboration among schools.
- Data-driven decision-making and appreciation of the role of qualitative information in understanding that which is quantitative
- The broadening of leadership expertise through schools and networks
- Transfer of LCN methodology to other school and network initiatives

***Further Reading:***


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## SECTION 2: LCN NETWORKS: GETTING STARTED

### 2.1 Establishment and facilitation of networks

Two groups support the development of Learning and Change Networks, with no cost to schools or networks, Lead Development Advisors from the Ministry of Education and Facilitators from the University of Auckland. Although through working together the two groups form a degree of overlap, they have distinct and complementary roles. Some of the primary roles performed by LDAs and facilitators are outlined below.

#### 2.1.1 Lead Development Advisors

In general, the role of the LDA is to ensure that the network process runs smoothly. The first task is to facilitate the development of an infrastructure with networks and negotiate the nature of participation. Network leaders discuss with the LDA a possible achievement challenge that they may wish to pursue and negotiate the Terms of Reference that outline the tasks and obligations of both parties. This forms the first part of ongoing support for network leadership and checks of network capability in the Ministry of Education's key benefit areas.

Fostering leadership and the breadth of capability within schools and networks are key aspects of the LDA role. LDAs ensure that network leaders are aware that they hold decision-making power in terms of the direction of their own network project. LDAs form professional relationships with network leaders, allowing them to address issues arising as they appear. In some cases, they have arranged for resource where it became imperative for network activity. As is the case for facilitators, LDAs prefer to suggest or guide rather than direct or determine any particular course of action.

LDAs communicate with networks and the University of Auckland facilitation team and attend regular network meetings. They form professional relationships with facilitators, supporting them to carry out their work unimpeded and support planning of regional networking days. They establish and maintain strong links with national and regional MoE staff and communicate information about the progress of networks. This is important to ensure that the LCN network activity aligns with MoE policy.

National analysis of overall achievement data is conducted by the LDAs. They ensure that each network has furnished the achievement information required, analyze leadership capability using the revised MoE capability sheet, and support network leaders where there are any concerns.

#### 2.1.2 Facilitators

The facilitator is introduced to a new network immediately after the Ministry of Education has signed a Terms of Reference with network leaders. This timely beginning of facilitated networking allows momentum to continue and for the collaborative refinement of the achievement challenge and process to be continued before it has solidified. The negotiation of the project is the most influential aspect, affecting every interaction that follows. Facilitators can support networks by encouraging network

leaders to gather together the three primary groups, students, teachers and families, so that they are included from the outset of the facilitated phases.

The first task of the facilitator is to facilitate the identification and specification of the achievement challenge. They ensure that this challenge is clear and acceptable to all participants and priority learners linked to the achievement challenge are identified. At this stage, facilitators need to check that all participants still wish to continue. Facilitators try to generate lively debate with sufficient congeniality to keep the network together. Although initially running meetings, facilitation becomes more a support for the chair as time goes on.

Facilitators then support networks to develop contextualized plans for exploring students' learning environments. This phase is extensive and frequently iterative. It involves the students mapping their current learning environments; all groups identifying priorities for change and then looking at the relationships between those change priorities. Facilitators continue to support networks' decision-making around these tasks, much of the support over this stage being characterized by modeling, questioning and prompting activity around data collection and analysis. Once networks have made sense of their analyses, facilitators support networks to develop network, school and/or individual plans. At this stage they prompt network leaders to ensure each participant group is authentically involved.

As networks make collaborative plans for change, facilitators support them to develop indicators that will allow them to evaluate the extent of progress and the nature of change. While quantitative student achievement data poses few problems for analysis and measurement, networks require more support to develop meaningful qualitative information. During this process, increasing numbers of school staff further their capability in evaluation of progress in learning. Facilitators work collaboratively with networks to ensure that the interventions they plan are those that are suggested by the analyses they have made. Changes are designed on the basis of the understandings reached by the network and constructed or modified especially for specific situations. Facilitators and LDAs allow these processes to be constructed and the direction of change to emerge. Change programmes are not off the peg or pre-determined but purposefully constructed and adapted in context. Naturally, at times, a network's analysis may suggest that such programmes fit the network's current priorities. Access to such programmes then becomes part of the making changes.

Other facilitator tasks include contributing to periodic evaluations and reporting of LCN progress and planning and contributing to regional networking days.

### 2.1.3 Across team Relationships

Clearly, for these complementary roles to operate smoothly, there must be much goodwill between the LDAs and facilitators who view themselves as partners with equivalent but diverse roles. As a team, LDAs and facilitators support networks best when they are reliable, consistent, demonstrate strong relationships, and know the parameters and acceptable transgressions around their roles. In all, both LDAs and facilitators require strong professional relationships with network participants.

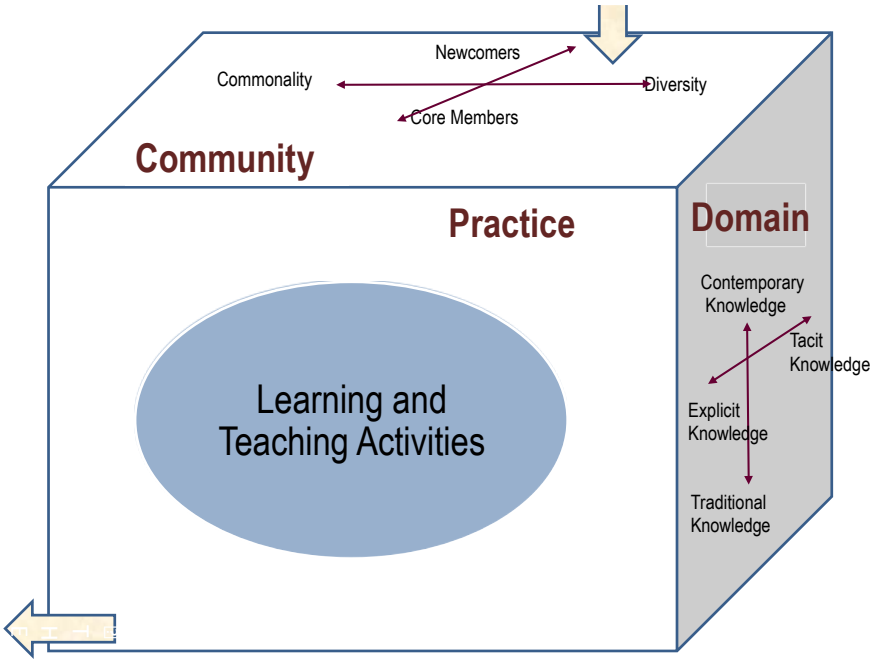
## 2.2 WORKING TOGETHER AS A NETWORK

### 2.2.1 The structure of the networks

LCN participants from early childhood centres, kura, primary schools, intermediate schools, secondary schools and Special Education schools, form communities of practice. Participation in the communities of practice is entirely voluntary. This is a critical feature of LCN, as each participant must hold an intrinsic interest in contributing to the group effort. Communities of practice are established in ways that encourage constructive interaction among participants, which are facilitated to ensure that connections are made within the networks and that opportunities are created for networks to exchange information.

The notion of community of practice was selected for networking because its structures hold knowledge at their core. This knowledge includes traditional, established knowledge that is strongly resistant to change and newer knowledge that is more modifiable. The concept of communities of practice is based on situated learning theory advanced by Lave & Wenger (1991) who observed that learning was supported by the interaction between near-peers, or people of whose knowledge of a particular subject differed somewhat but not vastly. Exchange between newcomers and those with just a little more experience was seen to be most supportive of learning. The near-peers operated in what Vygotsky termed, a zone of proximal development.

Communities of practice are dynamic, ecological structures and assume connected, dynamic knowledge construction and activity (Wenger, McDermott & Snyder, 2002).



The Community of Practice (from J. Annan, 2005)

There are three dimensions of the Community of Practice. The *Community* holds the people, a necessarily diverse range of people in terms of perspective and experience with the matter in hand. The resolution of tensions among the community powers the dynamic structure and creates change in the other dimensions. The *Domain* is the dimension that holds the Community of Practice's knowledge, comprising a resistant core and more easily adapted new knowledge. Changes in the domain lead to reciprocal changes in the *Practice* dimension, the dimension in which events occur. Changes in *Practice* result in changes in the *Domain* and also in the *Community*. In this way, the structure is seen to be dynamic.

Communities of practice operate when the group shared an interest or a goal. One of the first tasks, and one of the most critical in the LCN, is for the network to identify a mutual goal, a shared reason for working together. In the LCN, the communities of practice are able to discuss and debate the various views of learning and knowledge ensuring that the resultant learning environments are more relevant to the learning of the students for whom they are constructed. The interaction among the participants, provided that there is a balance of diversity and commonality, serves to create strong bonds among those who understand the various aspects of the children's learning (see Bull, Brooking & Campbell, 2008; Dumont, Istance & Beavides, 2010; Fullan, 2013; Hannon, 2014)

### 2.3 FOCUSING NETWORK ACTIVITY

Ensuing a clear and mutual focus for the network is critical to shared endeavour. Networks meet to decide on the aspect of student learning they will prioritize and the particular aspect that is challenging. This focal point allows for systematic and purposeful inquiry into students' learning environments. It is important to ensure that the achievement challenge is determined before exploring the learning environment because the nature of the plan for inquiry will be influenced by what networks need to know in relation to the challenge. As already noted, it is this mutual challenge and shared activity that binds the network together and ensures that purposeful energy is directed toward the development of new and better learning environments.

Facilitators make sure that the achievement challenge is clearly documented and that the plans for exploration relate directly to this challenge. Much information collected at the time of negotiating the achievement challenge must be recorded as it forms the baseline of activity against which future activity will be compared.

### 2.4 ACTIVITY AND EVENTS OF NETWORKS

Facilitators discuss possible network actions and procedures with networks early in their work. Although there are no prescribed ways of operating a network, it can be useful to consider examples from other networks. Network activity has included the following:

- Monthly network leader meetings
- Between network meetings
- Visits within and across schools for students, parents and teachers
- Linking students and other participants through digital mean
- Attending regional networking meetings

- Holding networking meetings for parents at times that are convenient
- Film evening
- Open days

This list is not exhaustive by any means. Networks may wish to add to this record.

## *REFERENCES*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# SECTION 3: OVERVIEW OF THE LEARNING AND CHANGE PROCESS

Learning and change networks are groups of school leaders and teachers from various schools, students, parents, whānau, iwi and other community members. Student groups can include those in early childhood, primary, intermediate and secondary schools. Together, these participants work together to build new innovative learning environments. They begin by exploring current learning environments noting the various supports in students' lives, the strengths they bring to learning and exchanging knowledge so that students' perspectives, values and learning connections can be understood. Students, along with the other participant groups, work to link the students' current learning environments with new environments that align with their aspirations and link with the contemporary global community. All participants are active, or interactive, in learning about what conditions support students' learning and determining the nature of their next steps in their envisioned direction.

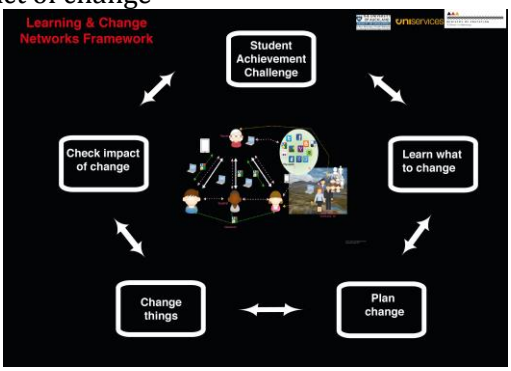
## 3.1 Brief introduction to each stage

Section 3 provides a brief summary of the broad activity of LCN networks. Interested groups of schools begin by negotiating their engagement in the LCN process with the Ministry of Education Lead Development Advisor (LDA). This negotiation includes determining the schools involved in the network and signing a terms of reference (see section about the LDA role).

Although the Ministry of Education has conducted the administration tasks associated with forming a network, **it is important that facilitators negotiate and clarify the various roles people will take and the tasks involved and the events they are asked to attend.** Although all is not known at this stage, a clear negotiation of the purpose of the work and the general procedures means that networks can put their energy into gathering data and collaborating.

The LCN networks follow a systematic pathway from negotiating network activity to measuring success. The pathway has the following components (see Figure 1)

1. Identify a student achievement challenge
2. Learn what to change
3. Plan change
4. Change things
5. Check the impact of change




The Learning and Change Network Framework

### 3.1.1 The achievement challenge

**At the outset, participants in each network meet to identify suitable, mutually understood and valued student achievement challenges.**

These achievement challenges become the focus of network activity. They shape the parameters of the information that will later be collected and analyzed. They also constitute the overarching reason for undertaking the work and progress is measured against from the beginning to the end of an LCN cycle.

There are no fixed achievement challenges. Networks decide these themselves depending on achievements and next steps in their particular locations.

Examples of achievement challenges are:

- Literacy
- Mathematics
- Writing
- Engagement (as linked to achievement)
- Science
- Multiple subjects
- A specific area of mathematics or writing

The achievement challenge is most often not directly addressed. Rather, the influences that underlie achievement in the area, for example, students' confidence, connectedness, use of learning tools, cultural perspectives or peer interaction, are involved in change activity. This is discussed further in a later section. The focus on underlying factors rests on the assumption that making changes in these areas will result in improved and sustainable progress.

### 3.1.2 Learn what to change

**The second stage involves networks exploring students' learning environments, analyzing information and deriving implications for the next steps. Note: Here is an overview, the process of learning what to change is discussed in detail in Section 4.**

Networks take an **appreciative approach** to discerning which data is most relevant to making change, meaning that supports and strengths are identified and new challenges viewed as next steps rather than deficits. Network activity at this stage involves the following tasks.

1. Development of plans to find information about students' current and preferred broad learning environments
2. Collaborative implementation of the data-collection plans
3. Processing information obtained through exploration – either iteratively or at one time
4. Collaborative development of an 'understanding' of the current and preferred learning environments involving a succinct summary, identification of the change priorities and a map of the relationships among change priorities
5. Deriving a list of implications for change from the shared understanding above.

The information above informs that network plan. More detailed information about creating ways to explore the broad learning environment and analyzing information is provided in a later section.

### 3.1.3 Planning change

**Once networks have developed the set of implications for change, schools then begin making their own plans. These can be included in the overall school strategic/annual plans if the changes are to occur across sections of the school, classroom plans if the change will be carried out throughout the classroom or individual plans if the changes are centered on particular students involved in the strategy.**

Note: By this time, the network plan is already in place comprising the change priorities, illustrations of evidence that led to this priority being selected, and implications of the priorities for change. Networks determine how they know that they have been effective across all of their schools.

The process of planning involves all participants taking an active part in:

- Collaborating to mutually decide on the direction of change in the selected change priority areas
- Suggesting the changes each will make to their own practice/activity and
- Contributing to a shared view of the activities, events, performances or other observations that would indicate successful change in the priority area
- Working with other network participants to decide how to discern change in the achievement challenge.

Participants later measure the change in academic performance *and* changes in practice that influence the achievement challenge. The networks are not restricted to any particular template for recording plans although the LCN does provide one example for use in schools or as a guide. It is important that networks keep records of the circumstances that presented at the beginning of the networking. If baseline data is only determined at the planning stage, much of the change will be missed as Learning and Change occur in the same moment (see below).

### 3.1.4 CHANGING

Once network plans are in place, participants make the planned changes in learning environments. That is, each participant will make changes in the school, home or community setting as planned. While these changes are being implemented, the network continues to play a key role in supporting the change. Networks meet regularly to share experiences and exchange useful knowledge and to maintain momentum. Many schools-students, teachers and families- also choose to visit other schools and these visits have proved valuable to those who have participated. During the change period, the strategy encourages multiple and on-going opportunities for students and other participants to share new learning and to make changes to plans as the learning environment changes.

### 3.1.5 CHECKING FOR IMPACT

Networks must systematically check for change in both the achievement challenge (the purpose of the activity) and the change priority areas (the influences on the achievement challenge). The nature of these changes is generally different.

1. Measuring change in the achievement challenge comprises academic assessment information.
2. Observing change in the change priority areas comprises documentation of changes in practice, activity or willingness/ability to perform in a certain way or environment.

Frequently the first set of data is dominantly quantitative and the second dominantly qualitative. However, there may be variations.

Networks make broad judgments about the extent to which they have had an impact. It is important to develop a common measure so that an estimate of change can be made without restricting the individualization of participants' pathways.

Networks may wish to record their observations of associated changes that were not specifically planned.

## 3.2 CYCLES OF SHARED UNDERSTANDING AND CHANGE

### 3.2.1 STARTING WITH A GENERIC INQUIRY CYCLE

As networks are forming, they work together through a first cycle of:

- Identifying a common achievement challenge
- Learning what to change
- Planning change
- Making changes
- Checking for impact

Everyone works together in the first cycle (synchronous learning) to develop a common way of working. Activity focused on a common achievement challenge creates common ground as diverse groups come together. However, once the first cycle is completed, network schools most often begin to work to their own schedules (asynchronous learning) as they integrate their learning and change processes into their everyday practice. This does not mean that groups within the network have strayed. It is a natural process and consequent networking will provide a forum for participants' to share their various successes and support them with their new challenges.

### (B). LEARNING AND CHANGE OCCUR IN THE SAME MOMENT

While the facilitated networking process is guided by a framework with linear steps, in practice, the various phases are not quite so distinct. For example, the process of negotiation produces valuable data; some change may occur naturally as we explore the learning environment. What drives our practice is our knowledge and as what we know changes, so does our activity and social interaction. Indeed, in an ideal situation, the change would be made by the time the situation is understood. This phenomenon was described by Cooperrider and Whitney (2005) who proposed that knowing and changing occurred in the same moment. Because change occurs from the first

conversation or observation we make, it is important to document the situation as it stood at the beginning of the process. The incremental change can mean that this is forgotten, making it difficult to check whether or not the process of change undertaken by the network is making a positive difference. The shifting perspectives and circumstances are to be expected and welcomed although careful facilitation will be required to keep the network focused as they are changing.

### *REFERENCE*

Cooperrider, D., & Whitney, D. (2005). *Appreciative Inquiry: A positive revolution in change.* San Francisco, CA: Berrett-Koehler Publishers

# SECTION 4: LEARNING WHAT TO CHANGE.

CONDUCTING IN-DEPTH EXPLORATIONS OF STUDENTS CURRENT AND ENVISIONED LEARNING ENVIRONMENTS

### 4.1 exploring the learning environment – introduction to section 4

In this section we discuss the development of specifically designed inquiries into the learning ecologies of the students. That is, we describe the way each network can develop a plan for inquiry that will provide the particular type of information sought by the network. Although networks are free to design methods of any form, we have provided an example of a mapping process that has been helpful for many networks, either as a full inquiry or to complement other means of investigation.

Many LCN networks have chosen to include *Learning Maps* and *Investigation of Practice* in their explorations. However, it is important to see these tasks as connected and to maintain sight of the inquiry overall. The LCN process has evolved from schooling improvement approaches where various tasks had been separated, each component generating a set of plans for change. In networking practice, this separation meant that participants were at times collecting information they had already discussed and were making plans for change before all relevant or required information was collected and integrated. This process has been refined so that the inquiry as a whole has coherence. Its various parts form a whole and any suggestions that individuals make during the *Mapping Exercise* and the *Investigation of Practice* related to students' maps remain deliberately tentative until networks have had a chance to reach collective understandings. Planning for change occurs after the networks as a whole have made decisions about the areas they will prioritize. Of course, once participants begin to consider the learning environment their thoughts will change with a subsequent change in everyday practice. This phenomenon is discussed later.

Making change in the areas prioritized by the networks has the advantage of focusing network activity on the development of specific areas. In this way, joint energies can be channeled into systemic change activity that will serve to support the participants as well as others who learn in that environment today and tomorrow. The shared foci foster the establishment and growth of lateral learning relationships and embeddedness of new activities in the everyday lives of the participants. Students naturally continue to personalize their specific plans for change around the prioritized areas but they are not working in isolation.

### 4.2 THE ACHIEVEMENT CHALLENGE: FOCUSING THE PROJECT

**The first task for networks is to identify and refine a mutually understood and valued achievement challenge.**

A clear focus for the project is essential for ensuring that data is collected in relation to a particular student achievement challenge and for cementing relationships among the networks' participants. The shared student achievement challenge is the common factor that binds the diverse groups of people together within the network (see earlier section on Communities of Practice).

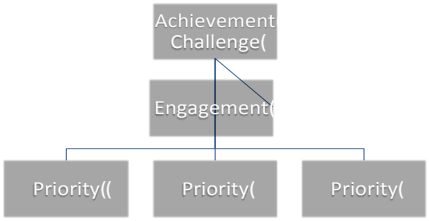
NOTE FOR FACILITATORS: Ensure that the distinction between the achievement challenge (e.g. students' writing, mathematics, literacy) is viewed as distinct from the influences on the challenge. The process of data collection aims to identify the key influences on the achievement challenge, both helpful and otherwise.

It may take some time to decide on an achievement challenge that is valued by all members of the network but commitment to the chosen achievement challenge is vital to the network activity. At this stage, networks may find that some members who are strongly attached to other achievement challenges do not continue or may join other networks where their preferred priority is being addressed. Network members must be free to leave the network if it is not serving their needs. For communities of practice to add value to the education of the students, all participants must belong on a voluntarily basis. It is only when the mutual challenge, the shared purpose, is known that schools and other participants can make final decisions about their involvement in the network.

The achievement challenge may present initially as a broad area and network members may have varying views on which particular aspects are most salient. The achievement challenge must be refined, described and named by the network before moving on to identifying the influences on this challenge.

**Note**: If an achievement challenge is the focus, where does engagement fit? Engagement can fit in two places in networks. Both forms (see diagram below) are workable but, throughout the network, there must be clarity about its place. The diagram on the left shows the achievement challenge as the key focus, with the assumption that students need to be engaged. The priorities for change in this case are those circumstances or practices that increase engagement, and therefore, achievement. The diagram on the right shows the achievement challenge to be the main focus and the various direct influences on achievement are identified. In this case, engagement is seen as but one of the circumstances or practices that directly influence achievement. Irrespective of the nature of the challenge, the most important matter is that networks create shared understandings about the foci and the direct or indirect influence of the change priorities identified.

## The Achievement Challenge and Engagement




Engagement(viewed(as(directly(related(
to(the(achievement(challenge(


Engagement(viewed(as(one(of(several(
contributors(to(the(achievement(
challenge(

### 4.3 DEVELOPING A PLAN FOR EXPLORING THE LEARNING ENVIRONMENT

**LCN networks develop their own plans for exploring students' learning environments. Methods of data collection are selected to answer the questions networks have about current and preferred learning environments. The investigation is carried out through the collaboration of all participant groups.**

The methods that networks choose to explore the learning environment may include purposefully constructed, existing or adapted tools provided they are used in an *appreciative, systematic, collaborative* and *culturally applicable way.* All planned information gathered should be related to the achievement challenge. A key advantage of developing contextually specific plans is that the chances of finding relevant information are maximized and the risk of unnecessarily intruding on people's lives is reduced.

In some situations, observational techniques will contribute to the understanding of the current learning environment along with interviews, surveys, and discussion groups. Whatever methods are selected, the LCN process aims to maximize the extent to which students' voices, about *their* learning environment, contribute to the understanding.

Below, we introduce one means of exploring learning environments that LCN networks have frequently chosen to follow, the *Learning Maps with Investigation of Practice*.

#### *4.3.1 EXAMPLE OF A METHOD FOR EXPLORING STUDENTS' LEARNING ENVIRONMENTS*

*Learning Maps* and *Investigation of Practice* constitute two parts of one exercise. The first section, Learning Maps, is largely descriptive and explanatory and the second, Investigation of Practice, is reflective and anticipatory. In some cases networks have chosen to combine the two data gathering activities and used the Learning Maps as a basis for discussion about current practice by the different participants.

## LEARNING MAPS

Learning Maps are student illustrations of their learning environments, viewed from their perspective. They are created using various media. Learning Maps emerged as a process for understanding children's worlds, the circumstances they view as supportive of their learning and the relative values they place on activities, relationships, tools and different sites of learning. These maps form the basis of collaborative exploration of the learning environments and identification of areas on which to build and extend learning opportunities. They were first used in literacy and schooling improvement projects in NZ and Australia (B. Annan & Wootton 2009-2012) and have since been adopted by many LCN networks throughout New Zealand. The process of creating and elaborating on the maps supports students to tell their story about their learning in relation to a specified achievement challenge and to appreciate supports already in place and possible opportunities to expand learning. In addition to providing a concrete picture of students' learning experience in context, we have observed that students have enjoyed engaging this activity, as have teachers and parents.

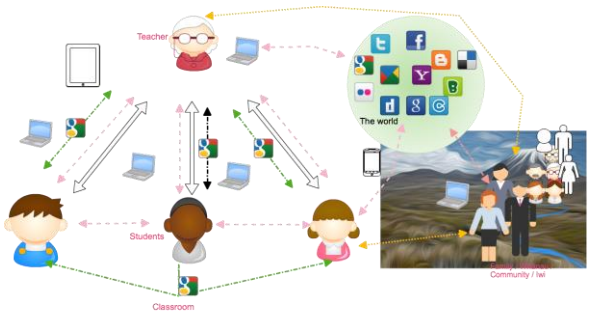
### Creating the Learning Maps

Students create their own learning maps. They may be illustrated by drawing or arranging figures and objects to indicate the following:

1. People who support learning
2. Tools that support learning
3. Interactions between the people and the learner and the tools and the learner
4. Sites of Learning

The learning maps can be created in many ways and can be adapted to the age, ability and interests of students as well as the availability of resources for various options. Some examples include:

- Pen/pencil and paper
- Computer programmes, e.g.Cacoo
- Cut out figures
- Photographs
- Magazine pictures
- Whiteboard (photographed when finished)




An example of a learning map

Note: The initial mapping considers students' current environments. Later, after discussion of and shared reflection on the maps, students may suggest ways in which they could extend their learning opportunities. These become their preferred learning environments. For example students could be prompted- what would you like to add/change/delete in your learning map to help your learning?

Note: If students are unable to draw maps, network leaders, teachers and parents may choose to work with children to gather and illustrate information.

**Discussing Maps**

The Learning Maps provide a situation where each student's learning environment can be articulated and discussed. Discussion centres on the four key aspects of the learning environment: sites, tools and artefacts, people and interactions. In some networks, students have worked as individuals with one or more adults to create and elaborate on their maps. In others, students have worked in groups but created their own individual maps. Decisions about arrangements for mapping and discussion are made by the network and supported by the facilitator.

The questions/prompts are open to allow for a wide range of responses and must allow the supports and strengths in students' environments to be clearly appreciated. It is helpful to start with easy to answer but interesting questions. Sometimes questions/prompts can be as open as a request to discuss a topic (e.g. *Tell me about where you learn things. Tell me about the people who help you. What do these people do to help you? ….).* The questions must allow the students to expand on the topics 1-4 above, to share information about the people, tools, interactions and the sites of learning.

*Recording of students' discussion is essential.* In most cases it is helpful to photograph students' completed learning maps so that they are preserved and stored in the school data system. Recording can be made using video, audio or written forms of recording. Where video and audio recording are used, it is useful for a student or adult to also note the main points about the four areas discussed so that a concise record is kept for later use. A useful way to record is to write on a copy of the map itself, or ask students to write on the maps. Written explanations may include information freely offered by the student, followed by prompts to cover the four areas, or responses to specific questions asked. An example of a written recording sheet is shown below. This example is written for one person to interview another. If students are completing the questions themselves, they can write in the first example of an annotated map.

| QUESTIONS | WRITTEN RESPONSES BY STUDENT/TEACHER/PARENT |
|---|---|
| a. Who helps you learn?<br><br>b. What do these people do to help you? (interactions) | |
| Tell me about the places you learn. | |
| a. What things do you use to help you learn?<br><br>b. How do these things help you? (interactions) | |
| What do you do to help yourself learn? | |

Once the description of the learning maps and the discussion of the four aspects are complete, a second, more reflective discussion follows. This is the Investigation of Practice, which is discussed below. Ideally, the two levels of discussion occur sequentially in the same session. This fosters a flow of ideas, reduces the need for participants to repeat at the second level what they may have already voluntarily offered in the initial discussion of learning maps and supports those adults for whom the arranging of schedules is not always easy.

## INVESTIGATION OF PRACTICE

### *INTRODUCTION: KEY UNDERSTANDINGS FOR THE INVESTIGATION OF PRACTICE*

The Investigation of Practice encourages all participants, students, teachers, parents and others, to consider their own current actions and the ways in which each influences the students' learning and how each might contribute differentially to the enhancement of the students' new, preferred learning environments. New learning environments must have relevance for students' current and future lives. Therefore, they would include digital technology, future-focused content and the learning environments that encompassed the multiple sites in which the students learn.

The process assumes a narrative approach, rather than a question and answer session, considering the stories people hold about the actions they choose to take. There are no right or wrong responses. A clear distinction is made between the person and the

practice in which they choose to engage. Problems and solutions are located within the interaction between the person and the identified challenge, not as fixed, inherent qualities that lie within the person. This narrative, external-to-person perspective allows new alternatives to be explored and negotiated. The participant per se is not examined, judged or asked to change. Rather, it is the participant's relationship with the challenge that is investigated and modified as participants suggest their next steps. An important aspect of the investigation is participants' accounts of the circumstances in which there previous actions have resulted in desired change are shared. These points become pivotal points for change or, in other words, the creation of a new story.

The Investigation of Practice asks open-ended questions or uses prompts to elicit a conversation about participants' current and next actions. Participants may come to the activity with the expectation of commenting on the practice of others. This is not surprising as teachers are more familiar with the practice of commenting on students' actions, and parents on their children's actions or teachers' actions. It is helpful to carefully explain the rationale for the separation of the person and their action in this task.

Investigations are carried out with each of the participants who first discuss their findings among their small groups of student/teacher/parent to develop mutual understandings. These discussions serve to generate social support for change among the groups and foster integration of new practices into existing routines. The students, teachers, parents and community members who form part of the network do not work in isolation to one another but come together as a wider group to identify key areas for change based on the collective understandings reached. Embedding new practices into regular routines requires the active involvement of students, parents, teachers and school leaders sharing knowledge, aligning new practices and applying in an extended range of circumstances. This interaction cannot be left to chance. The facilitator has a key role in ensuring interaction and spread of new knowledge and skill across the schools and networks (see Wootton, 2013).

### *THE PROCESS OF INVESTIGATING PRACTICE*

KEY UNDERSTANDING: *Participants investigate the actions or practices they choose to take NOT the person per se. That is, challenges, next steps and solutions are not located in the person but located between the person and the environment.*

**NOTE: Facilitators must undertake training in this method before using it with networks.**

### *PREPARATION FOR THE INVESTIGATION OF PRACTICE*

1. *Network leaders meet to frame the task.* Facilitators will emphasize that this task is about students, teachers, leaders and families involved in the network analyzing their own practices and considering the influence of these practices on the achievement challenge and the influence of the achievement challenge on their practices. It is likely that there will a mix of practices that can help to meet the challenge and those that contribute to the challenge.

2. The task is to support participants to examine their own practices in relation to the achievement challenge. In this meeting the facilitator will:

- Introduce the theory underpinning the task and how it creates a sense of responsibility among every single participant to learn and change
- Remind participants that new solutions may come to mind early in the process. Request that they do not become too attached to any particular solutions in the early stages.
- Provide electronic and hard copies of the templates
- Practice using templates. It is important that leaders have a thorough understanding of all aspects of template before returning to the school to complete them with the students, teachers, leaders and families.
- Network leaders will complete the investigation about their own practices before they work with others with this strategy.

### *INVESTIGATING PRACTICE*

Students, teachers, leaders and families are supported to examine their own actions and the influence of these actions on the achievement challenge. This co-constructed investigation is underpinned by narrative theory and is based on the assumption that everyone has a unique story about their relationship with learning and that different people hold different views on the same situation. Students' stories of their own lives are viewed as being constructed through their interaction with others and the world and their actions seen as being consistent with the stories they hold about themselves.

The purpose of the exercise is to examine the participants' multiple stories and consider the relationships between the people and the challenge, to build on previous positive successes and events and to create new, shared visions and individual but related new practices. The investigation follows a sequence of inquiry as described below.

1. Naming the challenge. Explore the challenge to discover a name that describes the challenge for everyone. **NOTE:** Naming the challenge is already completed before the mapping exercise. Check that this has been a mutually acceptable name/definition of the challenge.
2. *Telling the story.* This involves considering the broad interactive context associated with the particular achievement challenge and the relative influence of the achievement challenge and the person. The forms below can guide the discussion and collection of information about *each participant's relationship with the achievement challenge*
3. *Sharing the stories.* Each participant (e.g. parents, teachers) will have his/her own story about the situation. That is, there will be multiple versions of the story of each student's learning. The Investigation of Practice provides a forum in which the diverse perspectives can be shared, discussed and understood. It is important to maintain a focus on one's own practice and facilitators will need to be mindful of possible drift to more familiar patterns of discussing others' actions. No one perspective is the 'right' one and the views of each person must be respected as a report from their own reality.
4. *Next steps.* 'Next Steps' draws on information from the mapping exercise and the investigation of practice. There are two parts to the initial planning. The participants first identify the strong foundation that will become their platform for learning. They will then create visions of the future and suggest directions for and the activities of change. Firm plans for change will occur once the network has identified priority change areas.

### *STUDENTS' INVESTIGATION OF PRACTICE TEMPLATE*

This discussion would take place, after the mapping activity, preferably in the same session using the map as a basis for the conversation. The exact wording would be changed for use with parents and teachers. E.g. Parents- what do you do when your child is successful in this learning area [insert named challenge]? What do you do when your child is stuck in this learning area [insert named challenge]? What would you like to learn and change to support your child? Teacher: When [insert child's name] is making better progress, what practices are contributing to the improvement? When [insert child's name] is finding [insert named challenge] hard what are your practices attached to the challenge? What would you like to learn and change?

| INVESTIGATION STAGE | PROMPT/ QUESTIONS | RESPONSES |
|---|---|---|
| 1. NAMING THE CHALLENGE- set the context for the conversation | We are going to have a chat about your learning in [insert named challenge] The map you have just completed might help us talk about your learning in this area | |
| 2. TELLING THE STORY | Tell me about a time when you were successful in [insert named challenge] or you enjoyed [insert named challenge] Describe that to me-e.g. What were you learning about- where? With who? With what tools? What helped you be successful? What happened? What did you do?<br><br>***What does this tell you about your own strength?*** | |
| 3. SHARING STORIES | Can you tell me a time when you found [insert named challenge] hard, or you got stuck, or you didn't enjoy [insert named challenge]. Describe that to me-e.g. What were you learning about- where? With who? With what tools? What helped you be successful? What happened? What did you do? | |
| 4. THINKING ABOUT ALTERNATIVES | What would you want your learning to be like in the future? | |
| 6. NEXT STEPS | What <u>might</u> you do next to strengthen/change your actions on when [insert named challenge] | |
| 7. THE NEW | Tell me about [insert named challenge] now. What are you doing to keep ahead of the challenge? Set a learning goal and how | |

| | | |
|---|---|---|
| STORY | to track progress on this goal. | |

### *THE IMPORTANCE OF SKILLFUL FACILITATION OF THE INVESTIGATION OF PRACTICE*

Network leaders, facilitators and LDAs are encouraged to become familiar with the theory that underpins this activity so the conversation is theoretically rather than mechanically driven. The improvement of the relationship relies on the use of language that locates challenges external to the person and, without this language, simply going through the motions of the steps above is unlikely to be helpful.

If this activity is well facilitated, it can be liberating and motivating, particularly for those students, or teachers and parents, who have viewed that challenges have arisen because of something they could not change. The conversation is expected to generate curiosity and excitement within a supportive, welcoming climate and increased motivation to learn.

You may also want to read an article by *Alice Morgan* who discusses some fundamental principles of the narrative approach at the following URL:

### *REFERENCES*


Wootton, M. (2013). *Facilitators' conversations about data: How to build capability.* Unpublished thesis: University of Auckland.


### *RECOMMENDED READING*


Annan, J., Priestley, A., & Phillipson, R. (2006). Narrative Inquiry: A tool for ecological practice*. Kairaranga, 7(2), 20-27. This reference can be accessed free from http://www.massey.ac.nz/massey/fms/Colleges/Institute%20of%20Education/Documents/C&P/Kairaranga/Volume%207_Issue%202_%202006.pdf?5EE4D2480F4450638B20F5EC7AE09B36*

Morgan, A. (2002). Beginning to use a narrative approach in therapy. *The International Journal of Narrative Therapy and Community Work, 1*, 85-90. You can read this on-line at http://www.narrativetherapylibrary.com/media/downloadable/files/links/0/2/021Morgan_2.pdf

Russell, S. & Carey, M. (2004). Externalizing – commonly asked questions. In S. Russell, & M. Carey, *Narrative Therapy: Responding to your questions*. Adelaide: Dulwich Centre Publications. This chapter can be read on-line at http://www.narrativetherapylibrary.com/media/downloadable/files/links/N/T/NTRYQ1_Russell_2.pdf

White, M. (2007). *Maps of narrative practice.* New York: W.W.Norton. (This book is highly recommended)


Note: You may also want to explore the Dulwich Centre site where there are many excellent articles and books available at http://www.dulwichcentre.com.au/

# SECTION 5: LOOKING AFTER AND PROCESSING THE DATA

## 5.1 INTRODUCTION TO DATA PROCESSING

A fundamental aspect of LCN networking is that decision-making throughout the process is information-supported. That is, the decisions that networks make about choosing the mutual achievement challenge is based on the information supplied by network participants as are the identification of changes in activity or structure that are designed to meet the achievement challenge. In addition, decisions about whether or not the changes have had an impact on the achievement challenge, or whether changes in practices have occurred, are made in the light of information to evidence any conclusions drawn.

There is no one right way to analyze data and, to a large extent, the method of analysis will be determined by the nature of the information gathered. In most cases, the data will include a mix of qualitative and quantitative information, although it is likely that the wider set of information gained is dominantly qualitative.

Most network leaders and teacher participants are familiar with and adept in the use of quantitative data collection and analysis. In the main, the assignment of figures to data serves to simplify the analysis, facilitates communication and may be viewed by the general public as more objective. However, if we restrict ourselves to only data that is easy to quantify, communicate and pass as credible, we are missing some of the most important aspects of learning. That is, those thoughts, feelings, events, experiences and relationships that, while less concrete, could well be the most important influences on learning.

The measurement of the achievement challenge should be straightforward. In general, achievement challenges would have been identified through students' not having reached expected criteria on standardized, quantified measurements. These same measures can be used at the end of the change period to check for changes in achievement. Networks also collect information about the influences on the achievement challenge throughout the process. They need to have good descriptions of the circumstances at the beginning of the project, the key influences identified during and at the end of the data collection phase, and the changes in participants' actions or structures in educational settings at the end of the LCN first cycle. Clearly, having good information at the beginning of the process provides opportunity for comparison of early and later observations.

## 5.2 The challenge and early information

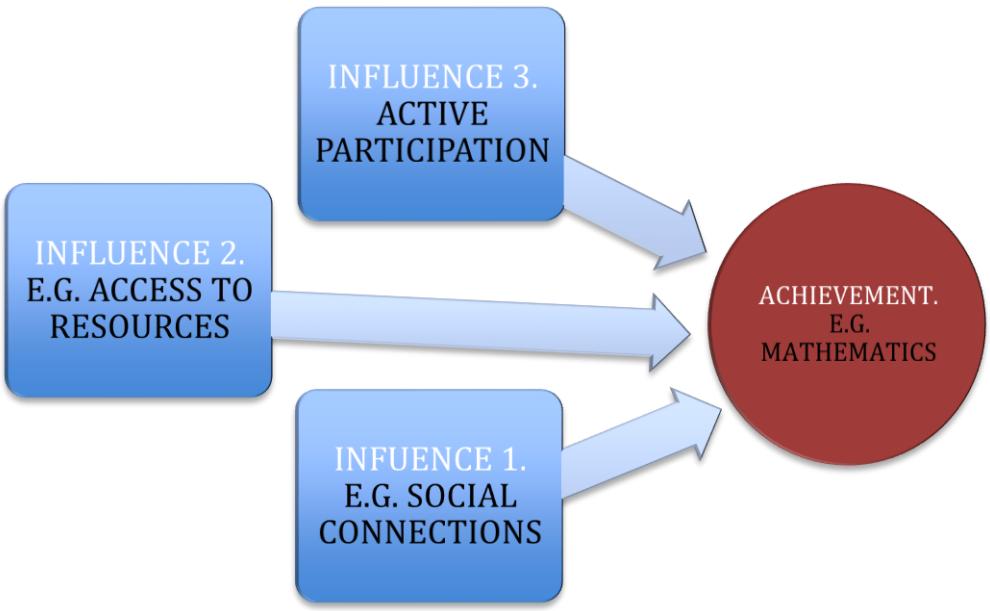
During the process of negotiating the networking process and identifying the achievement challenge much data, that is relevant for understanding of the current learning environment and the aspirations of network members is shared among those participating. This process will have also raised many questions.

A useful exercise to begin the understanding process is to briefly document or list some of the things that are known about the learning environment already, both helpful and challenging. This forms a base for further exploration of the learning environment and helps to keep the network participants working together.

### 5.3 PLANNING DATA COLLECTION

As noted in the previous section, much data will already be collected during the negotiation of the network project and the identification of an achievement challenge. Facilitators must work with network leaders to preserve this information so that it can be used in conjunction with subsequent data collection and also as description of the situation as it appeared at the beginning. If this data is not retained in some form, many participants may consider that they are being asked for information that they have already shared.

At this stage, and throughout the data collection phase, the distinction between the achievement challenge and the influences on the achievement challenge must be kept in view (see figure below).




### 5.4 MAKING SENSE OF the DATA

Large amounts of information will be collected about the students' broad learning environments. Whether networks will have either developed their own methods of investigation, guided by their initial ideas about what might be influential, or are working through the *Learning Maps* and *Investigation of Practice*, they will need to think about the analysis of the information they collect from the outset.

To manage the information and make sense of it, a clear process must be set in place. The following is a suggestion for reducing large amounts of qualitative data as the process of understanding progresses.

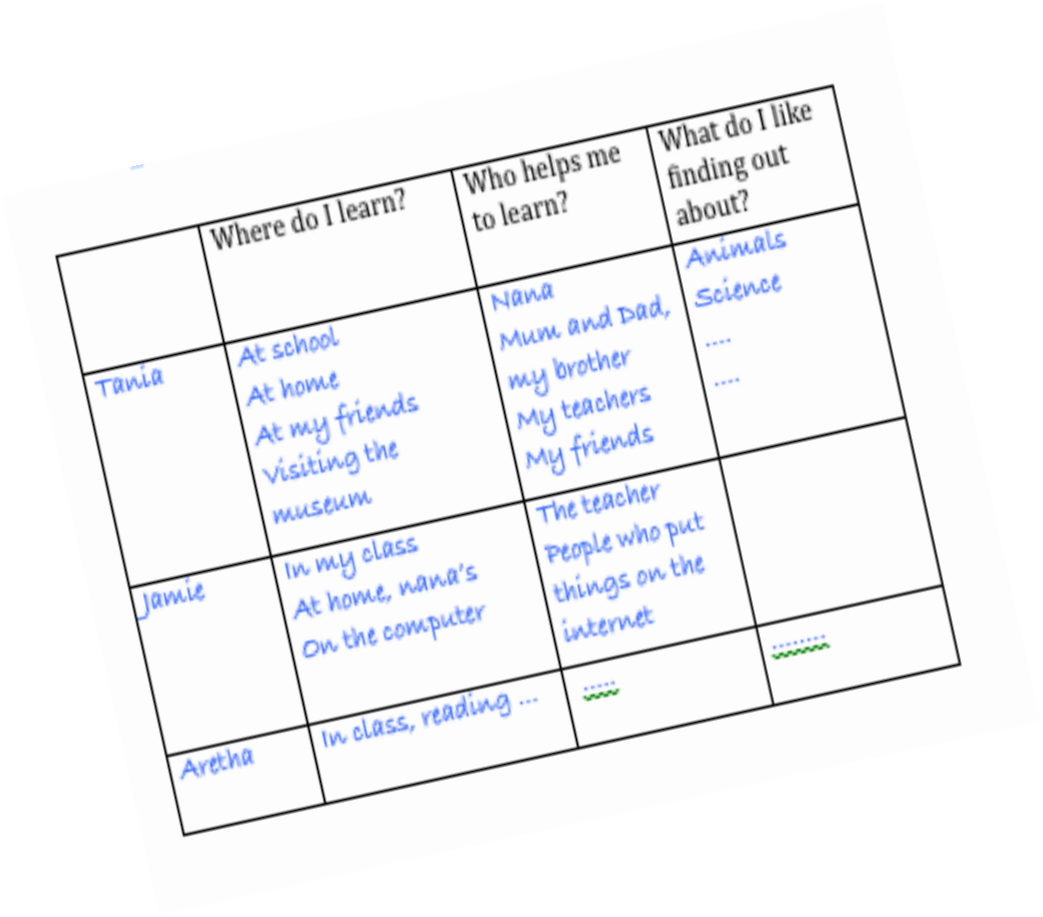
#### *5.4.1 COLLECTING BASELINE INFORMATION*

The documentation of information at the beginning of the network project includes:

1. Academic achievement data in relation to the achievement challenge
2. A description of the circumstances and key points raised about the students' learning.

### *5.4.2 ENSURING RECORDING OF INFORMATION FROM DRAWINGS, DISCUSSIONS AND INTERVIEWS.*

Check that all information is recorded and organized. For learning maps, this may include photographs or photocopies, for interviews it could be completed forms, or video clips and main points on forms. Students or adults depending on the age of students and their current ability and confidence to carry out the task could complete this recording.



| | Where do I learn? | Who helps me to learn? | What do I like finding out about? |
|---|---|---|---|
| Tania | At school<br>At home<br>At my friends<br>Visiting the museum | Nana<br>Mum and Dad,<br>my brother<br>My teachers<br>My friends | Animals<br>Science<br>....<br>.... |
| Jamie | In my class<br>At home, nana's<br>On the computer | The teacher<br>People who put things on the internet | ..... |
| Aretha | In class, reading ... | ..... | ..... |

### *5.4.3 TRACKING DATA AND DRAWING OUT KEY ISSUES*

Whatever process is used, it must be manageable and systematic. We suggest one path that supports the journey from raw data to themes that when finalized lead to sets of change priorities.

It is likely that networks will meet at least three times during the course of data collection. At each of these meetings networks can consider, as a group: What are the main messages? What have we noticed? What is the information telling us? Networks may decide that each individual school draw out their own key themes from the data before each meeting and note examples as evidence for their decisions. These key themes should be drawn out by the participants- students, teachers and families. This in-school analysis helps to streamline the meeting and free up time for discussion about

the themes and the next step in the data collection. It also serves to further professional relationships and share understanding within schools.

Networks are asked to look across their various sets of data to identify the themes emerging from the data. At the first meeting, the themes are held tentatively as not all data has been collected. At the second meeting, with more data, the themes are stronger but are not considered complete until the data collection process is finished.

Networks may find that their discoveries generate new questions to be explored. It is not uncommon for these questions to results in a further round of data collection. In essence, the data collection process is an iterative process, coming to a conclusion when the network finds it has sufficient information to form a coherent analysis.

### *5.4.4 AN EXAMPLE OF NETWORK PROCESSING OF INFORMATION FROM MULTIPLE SOURCES.*

*STEP 1: EACH SCHOOL LISTS THE MAIN FINDINGS OF THEIR DATA TO DATE.*

**NOTE:** THIS OUTLINE must be viewed IN COLOUR

The content of these tables is a synthesis of the student, teacher and family data, it is not representative of the language used by these participants but there ideas are represented.

| SCHOOL | FINDINGS TO DATE |
|---|---|
| SCHOOL 1 | Teachers are directing learning too much – also use of tools. |
| SCHOOL 2 | Teacher directing learning too much.<br>Peer learning in math and reading so why not writing - evidence from data from junior vs. senior school. |
| SCHOOL 3 | Empowerment of students<br>What is the WOW factor in teaching, learning? Physical Environment.<br>Empowering parents and caregivers |
| SCHOOL 4 | Passive nature of the student in the learning.<br>Teachers doing too much of the work. |
| SCHOOL 5 | Cultural responsiveness – linking with whānau – how do we help them?<br>How do we empower them?<br>Energy, Enthusiasm, Empowerment, Engagement, Environment<br>Teacher directed<br>Balance between when to direct and when to hold on.<br>Build teacher knowledge of tools. |
| SCHOOL 6 | Teacher-directed and/with rather than either/or.<br>Active learning.<br>Link to clarity in the classroom. Have not translated into practice. Not seeing it in the classrooms.<br>Do students value writing?<br>Digital tools. |

*STEP 2: MARK ITEMS THAT ARE SIMILAR/BELONG TO SIMILAR CATEGORIES*

| SCHOOL | FINDINGS TO DATE |
|---|---|
| SCHOOL 1 | Teachers are directing learning too much – also use of tools. |
| SCHOOL 2 | Teacher directing learning too much.<br>Peer learning in math and reading so why not writing - evidence from data from junior vs. senior school. |
| SCHOOL 3 | Empowerment of students<br>What is the WOW factor in teaching, learning? Physical Environment.<br>Empowering parents and caregivers |
| SCHOOL 4 | Passive nature of the student in the learning.<br>Teachers doing too much of the work. |
| SCHOOL 5 | Cultural responsiveness – linking with whānau – how do we help them?<br>How do we empower them?<br>Energy, Enthusiasm, Empowerment, Engagement, Environment<br>Teacher directed<br>Balance between when to direct and when to hold on.<br>Build teacher knowledge of tools. |
| SCHOOL 6 | Teacher-directed and/with rather than either/or.<br>Active learners.<br>Link to clarity in the classroom. Have not translated into practice. Not seeing it in the classrooms.<br>Do students value writing?<br>Digital tools. |

*STEP 3: GROUP EACH ITEM IN CATEGORIES*

| | COLLECTIVE OBSERVATIONS |
|---|---|
| | Teachers are directing learning too much – also use of tools. Teacher directing learning too much.<br>Teachers doing too much of the work.<br>Teacher directed<br>Balance between when to direct and when to hold on<br>Teacher-directed and/with rather than either/or.<br>Link to clarity in the classroom. Have not translated into practice. Not seeing it in the classrooms. |
| | Peer learning in math and reading so why not writing - evidence from data from junior vs. senior school. |
| | Empowerment of students<br>Passive nature of the student in the learning.<br>Active learners.<br>Do students value writing? |
| | What is the WOW factor in teaching, learning? Physical Environment.<br>Energy, Enthusiasm, Empowerment, Engagement, Environment |
| | Empowering parents and caregivers<br>Cultural responsiveness – linking with whānau – how do we help them?<br>How do we empower them? |
| | Build teacher knowledge of tools.<br>Digital tools. |

*STEP 4: LABEL THE CATEGORIES*

| EMERGING THEMES | COLLECTIVE OBSERVATIONS |
|---|---|
| Balance of teacher-student direction | Teachers are directing learning too much – also use of tools. Teacher directing learning too much.<br>Teachers doing too much of the work.<br>Teacher directed<br>Balance between when to direct and when to hold on<br>Teacher-directed and/with rather than either/or.<br>Link to clarity in the classroom. Have not translated into practice. Not seeing it in the classrooms. |
| Active-Passive role of students | Peer learning in math and reading so why not writing - evidence from data from junior vs. senior school. |
| Excitement and engagement | Empowerment of students<br>Passive nature of the student in the learning.<br>Active learners.<br>Do students value writing? |
| Lateral learning | What is the WOW factor in teaching, learning? Physical Environment. Energy, Enthusiasm, Empowerment, Engagement, Environment |
| Authentic links – Schools and families/whānau | Empowering parents and caregivers<br>Cultural responsiveness – linking with whānau – how do we help them? How do we empower them? |
| Teacher and student familiarity with digital tools | Build teacher knowledge of tools.<br>Digital tools. |

### *5.4.5 THE HUNCH-TRACKER*

Below is an example of a 'Hunch-tracker' that has been completed at three meetings. The first set of themes (taken from the example above) are preliminary, the second are still tentative, and, in this case, the **final set are the network's priorities for change.** There is no set number of themes although in most cases, networks have selected between three and five.

| MAY 2014 | JUNE 2014 | AUGUST 2014 |
|---|---|---|
| Balance of teacher-student direction | Multiple roles for teachers in different circumstances | Student directed learning |
| Active-passive role of students | Students' appreciation of the purpose of learning. | Opportunities for lateral learning. |
| Excitement and engagement | The extent of agency taken by the students in learning | Authentic engagement of family and community |
| Lateral learning | Learning in and beyond the classroom | Familiarity with digital tools/Integration into school programmes |

### *5.4.6 ELABORATING ON THE CHANGE PRIORITIES WITH SUPPORTING EVIDENCE*

Listing the information that led the selection of each change priority will help to:

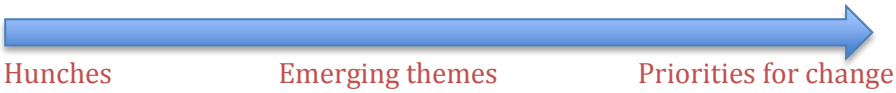
- Clarify the meaning of each theme
- Demonstrate the data support for the theme
- Maintain sight of the key data that will inform planned changes.

*AN EXAMPLE: TWO CHANGE PRIORITIES WITH SUPPORTING ILLUSTRATION*

| CHANGE PRIORITY | ILLUSTRATION FROM DATA |
|---|---|
| Balance of teacher and student led activity | • Mapping showed thick arrows from teacher to student on almost all maps drawn by teachers and students.<br>• Analysis of current practice indicated strong teacher direction (some supportive and helpful).<br>• Teachers were aware of the imbalance of teacher-student direction. |
| Lateral learning | • Observation showed that ESOL students learned best with support of other students.<br>• Most teachers have set goals for increased lateral learning. Analysis of practice showed teachers want to know more.<br>• 2013 PACs show students have opportunities to work together but interaction needs to be at a deeper level than it is at present, e.g. how do you spell ….?<br>• Student said they wanted their peers to help them understand *how* they got an answer rather than tell them the answer. |

### 5.5 ANALYSIS AND IMPLICATIONS

1. What began as hunches, led to emerging themes that were consolidated to become the **priorities for change** (see diagram below).

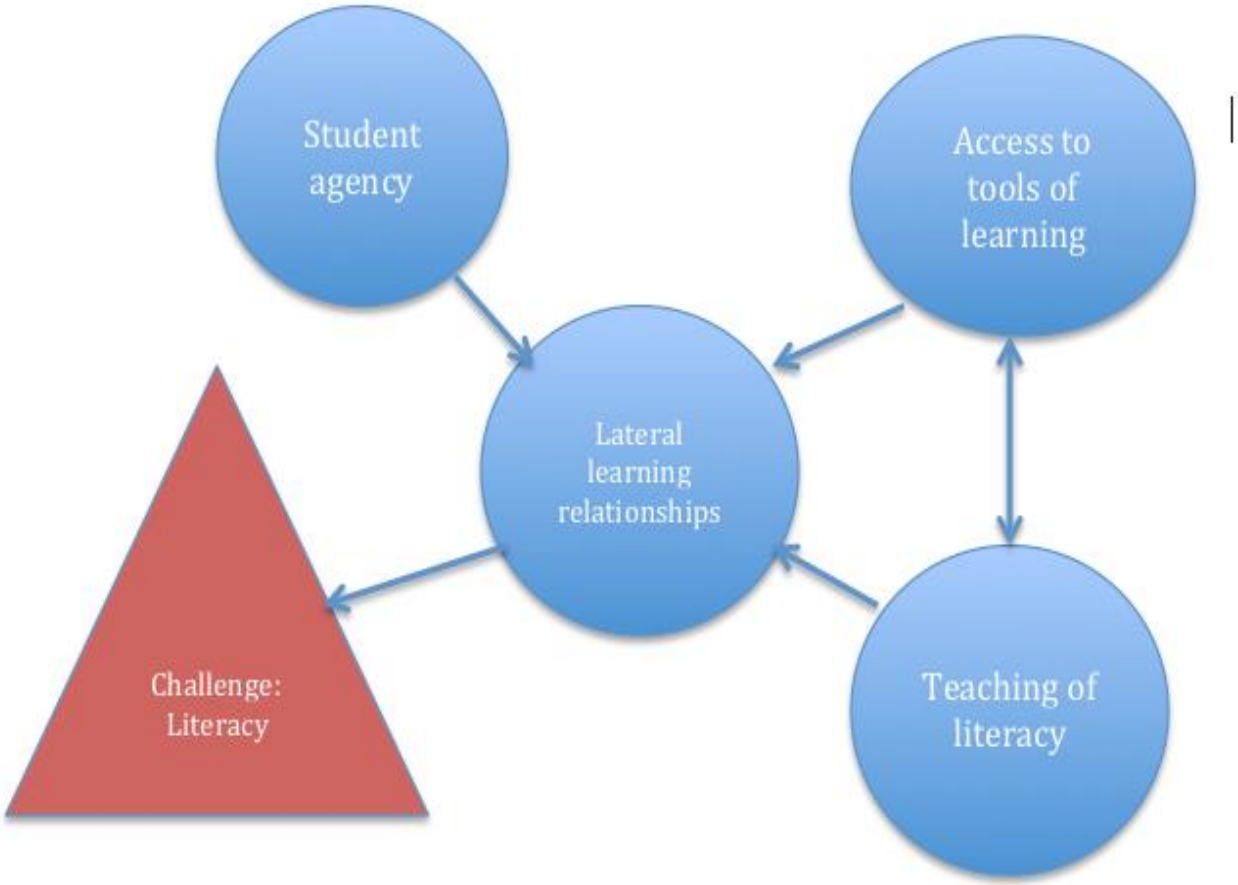



2. Networks meet to identify the relationships among the priorities for changes so that the wider picture, or the ecology, of the learning environment can be viewed as a whole. These priorities can be mapped in relation to one another so that

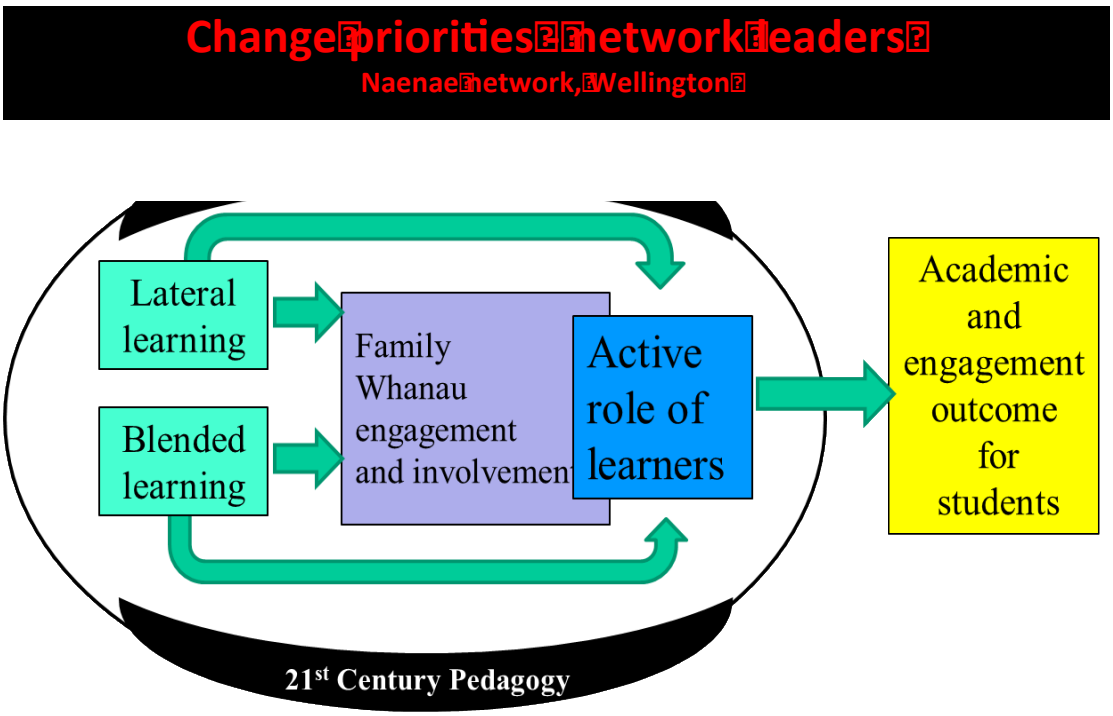
pivotal points for change are identified. This information helps networks to focus energy on aspects of the change plan that will make the greatest difference in relation to the achievement challenge.

This section must be recorded succinctly and coherently. The purpose of this analysis is to present the broad and complex situation in its simplest form. It is the big picture story 'in a nutshell'.

Mapping of the relationships among change priorities helps to identify the pivotal point for change. This allows energy for change to be channeled in the most efficient and focused way and reduces the chances of change processes




interfering with existing positive supports. In the example below, from the Naenae network in Wellington participants intended to improve literacy by directing efforts may be directed to ensure students are more active in their learning and family and whānau are fully engaged. Second tier change priorities around lateral and blended learning with a foundation of 21st century pedagogies become supports for students, families and whānau to become more active and engaged.




An example of a map of priorities (analysis)

3. From this understanding, networks list the implications for change that emerge from the linked understandings. **These are the key drivers of change and represent the beginning of the change phase.**

   The implications take account of the huge amount of data that justifies each priority area. For example, from the diagram above, the implications for change may have looked something like those the table below.

| STONY MOUNTAIN NETWORK<br><br>IMPLICATIONS OF LCN ANALYSIS FOR PLANNING AND CHANGE |
| --- |
| **To improve students literacy:**<br><br>1. **Students will have greater access to tools that allow them to interact with a wider audience**<br>2. **Teaching practices will be interactive and take into account new technologies**<br>3. **Students will have opportunities to exchange knowledge they have created**<br>4. **Student will have opportunities to make choices about their learning.** |

## SECTION 6: PLANNING CHANGE

There is no one right way to record plans for change provided that:

1. All participants are involved
2. Each student has a plan for change
3. Each school has plans for their students
4. Each school can determine overall if there has been improvement in the student achievement data linked to the priority change areas
5. Each network has determined a common method of measuring data so that network data can be pooled and conclusions drawn about the extent to which there has been change across the network.

LCN networks have a sample format that networks can choose to use for individual student or school plans.

Change activities are designed by all participants together and represent the different roles each takes in pursuing achievement challenges. Participants also determine the indicators of progress. Changes in practice are informed by different sets of knowledge. These are:

- Knowledge from inside the network (e.g. collective, existing knowledge within the network of practice, information from students' learning maps)
- Knowledge from outside the network (e.g. from professional and academic research, other networks), and
- New knowledge created by the group (i.e. synthesis of information from inside and outside of the LCN network).

Each LCN networks is responsible for integrating its context-specific knowledge with knowledge found beyond the local network. That mix of existing knowledge within the group and new knowledge from outside the group tends to disturb the nature of everyday interaction between students and others. That positive disturbance is expected to lead to new and better ways of doing things, such as tailored professional development or the use of digital platforms.

Networks monitor progress in terms of:

a. Changes in practices in priority areas
b. Movement toward the achievement challenge.

Some LCN networks have selected to create their own change in practice criteria so that their evaluative measures align with their identified change priorities. Others have chosen to conduct standard surveys, established within the LCN Strategy to measure change in pre-specified areas related to the Ministry of Education's benefit outcomes. As the strategy has, in this initiative, been focused on raising student achievement, National Standards and Ngā Whanaketanga Rumaki Māori information has been requested for Year 1 to Year 8 students as a way of tracking progress toward the achievement challenge.

## SECTION 7: MAKING CHANGE

Every network is unique in its make up, its approach to inquiring into students' learning environments and its interests around making change. Making change through networking is inevitably as diverse as all the other aspects of networking. Facilitation around making change is often a matter of letting networks get on with the task. Most networks still prefer an external agent to sit in on network leader's meetings to provide an external perspective and to assist in negotiating ways forward as challenges emerge. Often there is also a call for facilitators to get involved in networking activities between network leaders meetings. Facilitators can and should dip into the detail making change in order to have an informed view when they do interact with network leaders. Facilitators need to read the situation around making change and get involved where participants are getting bogged down and leave them to their own devices where activity is sharply focused on improving students' learning environments.

LCN activity around making change has highlighted a few popular change priorities, such as adjusting agency among students, teachers and families around learning and introducing digital tools and pedagogies. Most networks do have elements of popular priorities, but they also have other network-specific development interests and varied ways of thinking about addressing their agreed set of change priorities. The table below outlines a range of change priorities that 21 LCN have been addressing have been addressing. It would be easy to select the top three change priorities, student agency, family/whānau/community engagement and future-focused digital pedagogies and encourage all networks to follow suit. However, that type of short-cut solution forming is counter-productive to effective LCN theory and practice, which encourages groups within the network to discover through collaborative inquiry the right mix of change priorities to improve their students' learning environments. Every change priority, therefore, needs to be valued as it is important to someone in the network. Valuing everyone's interests in the change process is starting to grow personalization within the LCN strategy.

| **LCN Change Priorities** |
|---|
| • Student Agency 13<br>• Involvement/engagement family whanau; community engagement 9<br>• Digital Motivation/E- learning/Digital tool/ Digital Pedagogy 9<br>• Future Focused Learning/21st Century learning 7<br>• Teacher Agency/PLd/Capability 5<br>• Student, teacher, family , leader voice linked to teacher inquiries 4<br>• Pedagogy 4<br>• Engagement for learning 3<br>• Agency of students, teachers, families and leaders 3<br>• Learning Environments 2<br>• Scaffolding Oracy/learning from oral Literacy 2<br>• Transition 2<br>• Connectivity 2<br>• Sustainability 1 |

| |
|---|
| • Authenticity 1<br>• Lateral Learning 1<br>• Valuing children's oral languages and experiences 1<br>• These priorities now underpin all we do. Engagement family whanau Student Agency, Active learning Introduction Digital Tools, e-Learning, Future-focused, Enhance connectivity, Pedagogy, Learning environments, Lateral Learning relationship 1 |
| The list is from LCN Milestone 5 analysis of LCN change priorities submitted by network leaders |

Below is another table that outlines common activities that LCN's have been using to make desired changes. Collaboration and engagement of students, teachers, family and whānau are predictably common given that they were fundamental to the networked inquiries that led to the point of making changes. There is as much variety around making change as there is around identifying change priorities. At the OECD Innovative Learning Environments project meeting in Paris in June 2014, one participant made the comment that: "You cannot tell networks what to do. You can only nudge them." (Linda Kaser, June 2014). This is an important message for facilitating networks of learning and change.

| **LCN activities around making change** | |
|---|---|
| • Collaborating 27<br>• Student voice/agency 20<br>• Parent/whānau/community involvement 18<br>• Teacher PLD 18<br>• Teacher inquiry – changing role of the teacher 22<br>• Developing LCN sites 17<br>• Digital tools and pedagogies 7<br>• Moderation 6<br>• Authentic audience 5 | • Learning environments 4<br>• Student workshops 3<br>• Assessment tools 3<br>• Hapu/Iwi involvement 2<br>• Strategic resourcing 2<br>• Transition 2<br>• Pedagogy 2<br>• Cultural responsiveness 1<br>• Relationships 1<br>• Transition/ partnership 1<br>• Data measuring 1 |
| The list is from LCN Milestone 5 analysis of LCN activity artefacts submitted by network leaders | |

UniServices facilitator leaders discovered that there are two overarching success factors associated with making change effectively. The first factor is for participant groups to conduct collaborative inquiries as outlined in brief in Section 3 and in more detail in Sections 4, 5 and 6 of this manual. That factor is a pre-requisite to making change effectively. The second factor centres on students, teachers, families, whānau and leaders in the act of making change. A critical discovery is that a great deal of the activity involved in making change relates to those groups adjusting their agency within the students' learning environments. There was considerable evidence of a collective

agency readjustment phenomenon in the multiple analyses of data compiled for the LCN Milestone 5 report.

What does 'collective agency readjustment' mean? Students, teachers, family and whānau members, school leaders (and business leaders in some communities), are coming to terms with re thinking their roles and responsibilities around student learning. Many students challenged by academic learning are now aware of the passive state they used to be in and are enthusiastically and collectively increasing responsibility for their own learning. However, those participant students do not want to be put out in front to explore learning in isolation to those adults that make them feel safe, capable and confident. They are asking their teachers, families and whānau to become joined at the hip with them as they expand their learning boundaries.

As priority learners grow in learning stature, teachers, school leaders, family and whānau are facing up to adjusting their agency around the learning. It is not a pendulum swing from telling priority learners what to do and now leaving them to their own devices. Rather, it is a matter of learning how to slide across a learning support continuum from telling priority learners what to do, to co-constructing things with them or leaving them to self-determine learning. There is also a reciprocal child-to-adult learning arrangement unfolding. Within the digital learning environment, in particular, child-to-adult support for learning is common. Youngsters are telling, co-constructing with and sometimes leaving teachers, leaders, mums, dads, nana and granddad to learn in the modern world.

## SECTION 8: EVALUATING CHANGE

Evaluating change is important to gauge the success and value of the investment into networking. Government has invested additional funding, the Ministry has invested co-ordination and support, UniServices has invested design and facilitation services and network participants have invested considerable time, effort, deep thinking and inquiries to figure out what and how to change things for the better within students' learning environments. All those groups, and particularly the students, teachers, families and whānau, are best to know whether their investment has been worthwhile or not.

If the multiple investments have been worthwhile, then there is sense in building on current networking activities. If they have not, then there is little point persevering – better to change tack and keep trying alternatives until something works. This point links back to important focus on practice improvement within communities-of-practice, which was outlined in Section 2.2. Structure of Networks. That section talks about the three elements of communities-of-practice, that is (i) a community of people, (ii) with interest in growing knowledge in a particular domain (iii) to improve their practices. A critical question here is whether the new knowledge and practice improvements among participants impacted positively on valued student outcomes.

The answer to that question lies in the identification of effective practice. 'Effective' practice refers to activity that has had a positive and statistically significant impact on student academic learning. An important part of the LCN strategy, therefore, is for participants to monitor the impact of what they are doing on valued student outcomes. Four layers of impact checks are worthy of completion:

- National impact checks completed by the LDA and UniServices teams,
- Network-wide impact checks completed by network leaders,
- School-wide impact checks completed by school leaders, and
- Student-level impact checks completed by participant students with support from their teachers, family and whānau.

Each of those groups is encouraged to conduct impact checks of both the achievement challenge (the purpose of the activity) and the change priority areas (the influences on the achievement challenge). The nature of these changes is generally different.

1. Measuring change in the achievement challenge comprises academic assessment information.
2. Observing change in the change priority areas comprises documentation of changes in practice, activity or willingness/ability to perform in a certain way or environment.

Frequently the first set of data is dominantly quantitative and the second dominantly qualitative. However, there may be variations.

An example of a national impact check is outlined in the table below. The Ministry LDA team completed a quantitative report about students' progress against National Standards. The UniServices facilitation lead team completed a qualitative analysis to

identify the generic networking practices associated with the overall positive lift in academic achievement.

**A National Impact Check of LCN**

A Ministry of Education report about Student Achievement in LCN claimed that participant students made an average shift upwards of 24.43 percentage points against National Standards in the 2014 school year. The table below outlines those gains in three curriculum areas and the Ministry's priority learner categories. This overall result is both positive and statistically significant and suggests that there are things happening within the LCN strategy that are worthwhile taking note of at the national (macro), network (mezo) and school (micro) levels of New Zealand's education system.

*Table 2.13: Summary achievement change for particular cohorts 2013-2014*

| Group | Total learners | % Of learners | Percentage Point change 2013-2014 |
|---|---|---|---|
| **Total (all learners, all subjects)** | 3795 | 100% | 24.43pp |
| **Writing** | 2391 | 63% | 24.72pp |
| **Mathematics** | 946 | 24.90% | 26.01pp |
| **Reading** | 458 | 12.10% | 19.65pp |
| **Māori** | 1247 | 32.90% | 19.32pp |
| **Pasifika** | 714 | 18.80% | 17.65pp |
| **Male** | 2462 | 64.90% | 22.3pp |
| **Female** | 1333 | 35.10% | 28.33pp |

UniServices Milestone 5 report analyzed LCN activity in relation to the positive achievement gains. The analysis identified five overall practice improvements that account for the positive gains.

1. Activating priority learners' interest, creativity and responsibility around learning.
2. Manufacturing opportunities for priority learners, teachers and families/whānau to conduct disciplined, interactive inquiries into priority learners current learning situations.
3. Activating priority learners, teachers, families and leaders to collaboratively adjust their agency around learning.
4. Exploring the relationship between LCN activity and valued outcomes for priority learners.
5. Dedicating time to stop, think, strategize and change tack to create more innovative and effective learning environments with and for priority learners.

That national picture is a useful overview of LCN developments but it does not represent an impact check for each network, or for each school or for each student. Those impact checks have to be completed by the networks, the schools and the students. Networks that choose to complete these multi-group impact checks on a regular basis are likely to grow adaptive expertise and develop innovative and effective learning environments. Those networks that choose to ignore that exercise are likely to have adopted some useful routines but are likely to plateau in the energy surges and achievement gains in the near future.

The following table provides lists that are suggestions for students, schools and networks to complete their impact checks.

***Student impact check.*** **Prepared by each priority learner.**

1. Analyze my National Standards data.
2. Complete a learning map to show the changes that have been made in my learning environment that caused the lifts/drops in National Standards data.
3. Create a 2-3 minute video to explain changes that have occurred in my learning environment that explain my lifts/drops in National Standards data.
4. Share my learning map with my teacher and my family members that support my learning.
5. Listen to feedback from my teacher and family members and set new learning practice goals.

***School-wide impact check*****. Prepared by school leaders.**

1. Complete a spreadsheet that records two point-in-time National Standard data against the names of priority learners involved in LCN activity.
2. Complete a statistical analysis of the National Standards data to arrive at individual student, class-by-class and school wide pictures of academic progress.
3. Complete an inductive inquiry into the network activity to find out the nature of the activity that is having the greatest impact. This means analyzing data about the network's activity. It could be data from the learning maps, evaluative probes, interviews, observations, videos and other ways that the networking activity has been captured.
4. Identify 3-5 success factors underlying the network.
5. Create a presentation and share it with the students, teachers and families involved in the networking and also for the board of trustees and community. Receive feedback from those groups then use the presentation information to adjust annual and strategic plans.

***Network-wide impact check.*** **Prepared by network leaders**

Follow the same pattern as the school-wide impact check above for points 1-5 but at the network level. For No.5 create a presentation and share it with participant school leaders. Receiving feedback from participant school leaders and finalize the presentation for submission UniServices for the LCN milestone 6 report.

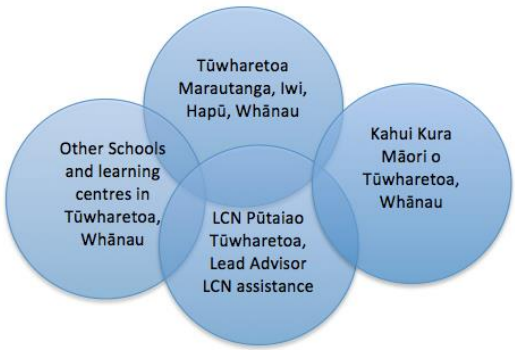
## CONCLUSION

The LCN strategy was put in place to get lateral networking moving in NZ schooling. Interactive, appreciative and ecological theory underpinned its design. UniServices facilitation services alongside Ministry LDA support followed through on that theory in implementation. That resolve grew energy, interest, commitment and confidence among network leaders to become facilitators within their own networks. They activated students challenged by academic learning, their teachers and families and whānau to look at learning in new and different ways. Those groups are chipping away at understanding lateral networking and they are starting to experience the benefits of getting connected within networks. Now that lateral networking is on the move, it is likely to spread in many different forms. Some of the spread will occur through those LCN participants that came to understand lateral networking. Hopefully, this facilitation guide will assist them in as they assist colleagues to push out the boundaries of their learning environments.

# *APPENDIX 3*

# LCN SCIENCE INDIVIDUAL NETWORK'S DEVELOPMENTS

1. LCN Pūtaiao Tūwharetoa Milestone 1 Written Report, 20 o Hakihea 2014.

| | |
|---|---|
| **Establishment of a leadership team** | **Current mahi:**<br>● Terms of reference documents have been signed by the following Principals and their Boards; Te Kura o Hīrangi, Te Kura o Ngapuke, Te Kura o Waitahanui, Te Kura Kaupapa Māori o Whakarewa i te reo ki Tūwharetoa. Te Kura o Kakahi and Te Kura Kaupapa Māori o Taumarunui signed documents are pending.<br>● The leadership team consists of the Principals of Ngapuke, Waitahanui, Whakarewa, Kakahi, Taumarunui, the lead teacher Liz Warena for Te Kura o Hīrangi and this LCN facilitator, Miriama Prentice. |
| **Hui** | ● May 14, 2014 – hui held with Te Kura o Hīrangi to discuss LCN Pūtaiao Tūwharetoa proposal and modification of Terms of reference document to better reflect kura and iwi aspirations<br>● June 3, 2014 – hui with Mereana Anderson and Te Kura o Hīrangi to further discuss LCN resolving that TKoH and TAMoT will carry this kaupapa<br>● July 3, 2014 – hui held at TKoH where LCN Tūwharetoa vision, framework and engagement statement discussed<br>● September 10, 2014 – Miriama attends a Waikato Regional LCN hui<br>● December 1st, 2014 – Miriama attends a Facilitator training hui |
| **Network achievement challenge and change priorities identified from the above hui**<br><br>Ngā mihi o te wā,<br>Miriama Prentice | **<u>LCN Pūtaiao Tūwharetoa</u>**<br>*<u>Purpose:</u>* A collection of kura Māori in collaboration with Ngāti Tūwharetoa are proposing to work together to produce a facility to improve the teaching and learning of Pūtaiao Tūwharetoa.<br>*<u>LCN Pūtaiao Tūwharetoa vision:</u>*<br>***Ko te mahi a te kāhui Pūtaiao Tūwharetoa, ko te whai tonu i te ara kōpikopiko o te Ao o Tūwharetoa me te kohikohi hoki i ngā rawe hei whāngai atu ki ngā tamariki mokopuna.***<br>*<u>Framework:</u>*<br>  <br> |

## 2. **Botany Science LCN summary**

Goal:
- The cluster works collaboratively to enrich pedagogy in order to grow scientifically capable citizens.

Objectives:
- Schools will work collaboratively to share and moderate outcomes and pedagogy
- Students will develop curiosity through inquiry
- Students will learn how to think and behave like a scientist
- Schools will establish a clear pathway of scientific progression across the sector from Year 1 - 10
- Programmes will provide authentic contexts for science learning
- Students will engage in a socio-scientific perspective within the science programme
- Development will be based on the science capabilities

Strategies:
- Demonstrate a deliberate focus on the nature of science and science capabilities.
- Deliberately develop the knowledge and language of science
- Programmes will incorporate scientific processes, investigative skills and problem solving.
- Seek authentic integration of science into other learning areas.
- Engage with the community to strengthen science in our schools.
- Provide effective professional learning
- Teachers are aware of and use the resources available to support their science programmes

## 3. Half Moon Bay LCN Network Plan

***Vision:*** To develop confident scientific citizens who are connected to the world around them.

***Strategic Goals:***

Our teaching and learning of Science will focus on:

- Authenticity
- Connections with the community/ies
- developing confident, competent learners (students, teachers and parents)
- Scientific citizenship.
- Inquiry
- 'The Nature of Science'
- Engagement

| **Priority learners** | |
|---|---|
| Wakaaranga Primary School | Achievement across year levels |
| Pigeon Mountain Primary School | Year 4 Students |
| Bucklands Beach Primary School | Year 4 students |
| Howick Primary School | Year 4 Students |
| Owairoa Primary School | Year 4 Students |
| Bucklands Beach Intermediate | Sample of girls from Y7 & Y8 |
| Farm Cove Intermediate | Year 8 students who show a lack of interest |

| | |
|---|---|
| Macleans College | Year 9&10 students who show a lack of interest/ disengagement |

***Priority Learners****

*With special interest in Maori achievement.

***How will we achieve our goals?***

•target specific students in Science

•connections between Science and school wide planning and/or classroom planning.

•Identify targeted Maori students and promote links between Science and Maori language, culture and sustainability.

•Actively promote Science within classroom programmes.

•Understand the 'Nature of Science' and best practice pedagogy.

•Make connections between schools, parents and our communities.

***How will we track and monitor our students as a Cluster?***

•Develop our HMB LCN Science Progression from Y1-10, so that teachers are able to identify, track progress using a range of diagnostics tools/ observation and classroom tasks. These will be developed at our first cluster meeting.

***Milestones/ Contributions****

| Date | Focus |
|---|---|
| 17 February | •Developing progressions to track and monitor Priority Learners as a cluster.<br>•Decide how we will advance our strategic goals.<br>•Incorporating Matariki. |
| 5 May | •Sharing 'Best Practice' in Science<br>•Working on Strategic Goals.<br>•Priority learners and Priority learners who are identified as Maori are confirmed. |
| 16 June | •Sharing success stories<br>•Working on Strategic Goals.<br>•Feedback on Priority learners with special interest in Maori achievement. |
| 4 August | •Checkpoint – where are our target students along the Science Progressions?<br>•Working on Strategic Goals.<br>•Feedback on Priority learners with special interest in Maori achievement. |
| 7 September | •Links to research/ researchers.<br>•Working on Strategic Goals.<br>•Feedback on Priority learners with special interest in Maori achievement. |
| 31 November | •Each school to present student data using our Science Progressions. |

**Milestones to be modified to include links to academics, researchers and community experts*

***Notes***

•Commitment to HMB LCN meetings and network days.

•Attendance at Science Conference.

Individual School LCN Science Plans are available on request for this network.

## 4. Central Hawkes Bay LCN Milestone Report

**Vision/Goal:** "To have a Community of Children Who are Engaged, Excited and Curious about Science" / "To Engage and Excite Children in Science?"

**2014 Summary;**

The formation of the CHB Science Learning and Change Network was initiated at the first 2014 meeting of the CHB Principals Association. From there it was arranged for Rob Mill to come and talk to any interested education sites in CHB. There was considerable interest ranging from Early Childhood to Secondary. The initial interest of 16 sites was reduced to 11 sites after a couple of meetings and this number continued through 2014. there was some inconsistency in attendance from some of this sites but it has been clearly outlined (from the experience from other LCNs) that commitment to the group is required if we want success from it.

There were several mtgs held throughout the year (summary below) and some members attended hui of other LCNs (Central South and Manaiakalani).
It became very evident that the teachers needed support in building their knowledge/skills and confidence if we wanted this to come through to the children.
The interest from the Science Road Show to run a Pilot Science Club in CHB coincided with the formation of the LCN and has been taken on board by the LCN members and the expertise of the Road Show facilitators will also be used to provide PLD support for the teachers.

It became apparent that the formation of an LCN is not a quick process and there was some frustration over this but the last meeting of 2014 was one where some structured progress was outlined and dates set for confirmed action in the sites for 2015.
The meetings and discussion during the year has helped to build a level of trust and collaboration within the group but this still needs to be developed further and at a deeper level.

There was a level of excitement and anticipation of the members as they look ahead to 2015.

Phil Bourke.

**2014 Summary of Action:**

**Initial action:**

- March 2014:
    - Contact all learning centres in CHB and ask for expressions of interest in working together to improve science learning in CHB
    - 16 centres expressed an interest in coming along to discuss the idea of working together on improving what happens with science in Central Hawkes Bay Schools.
    - This included Early Childhood Education Centres and the CHB College.
    - I organized a venue (CHB College) and a date, Friday 11 April.

- Decided on some one to facilitate logistics of group action and meetings: Phil Bourke (Flemington) as main contact; AJ Eaglestone (Pukehou) and Allan Carpenter (St Josephs) as support for this responsibility.

**Initial Meeting: 11 April Meeting:**

- 13 Principals, Teachers or Head Teachers from 10 centres attended this meeting, with apologies from 3 primary schools.
- Rob Mill facilitated the meeting and Lynne McGuire from the Napier Ministry Office attended as well.
- This initial meeting was about making connections and establishing a collective idea of what we wanted for science learning in CHB and how we might go about achieving this.
- Forming a Learning and Change Network (LCN) is a structure that would support this.
- 4 Schools committed to forming a LCN at this meeting and other schools had to decide by 17 April.
- Formulated an overall Goal/Vision: "How to Engage and Excite Children in Science" / "To have a Community of Children Who are Engaged, Excited and Curious about Science"

**22 May Meeting;**

- 11 Sites committed to LCN:
  CHB College,
  Flemington School,
  OngaOnga School,
  Porangahau School,
  Pukehou School,
  Sherwood School,
  St Joseph's School,
  Takapau School,
  Terrace School,
  Waipukurau School,
  Hunter Park kindergarten
- More in depth learning about LNCs and how they work.
- Agree to go back to sites and gather information from children, teachers, and parents about their thinking around science.

**30 June Mtg:**

- Ian Kennedy from Science Road Show had been in contact about a pilot programme based on Science Clubs in CHB.
  - This seemed as though it could be something that could support the Kaupapa of the LCN objectives.
- Feedback on what had happened in our sites since the last mtg: Varied response and level of action
- Brian Annan led more dialogue about what LCN's were and how they worked -
  - Common Goal, Regular meetings, Commitment from members, agreed tasks, feedback, trust, new tasks,
  - There has been a developing understanding from the members about the concept and purpose of LCNs.
  - These fundamentals are crucial for any successful outcomes for the children from such groups.

**14 August Mtg:**

- 4 School Principals in LCN met with Ian Kennedy and discussed the concept of the 'Science Club' in CHB prior to the scheduled LCN mtg on 18 August.
    - Depends on funding from ECCT
    - Not an in classroom activity
    - Ideally get members of the community to run clubs
    - The thinking was that the concept had merit and could really support the LCN Kaupapa but no guarantee until funding is granted from ECCT

**18 August Mtg:**

- St Joseph's School went to Manaiikalani Cluster in Auckland between meetings
    - The strongest message was that success comes from community buy in, a partnership around engagement and sharing.
    - Business partnerships was also another strong message.
- Feedback from schools on tasks to gather more data - still problematic and varied in data.
- Discussion around what sort of data is needed and is helpful
- Learning Maps were presented by Mary/Jessica as the most successful format for this process
- Decision made for Jessica to be in CHB for a week in September to support schools/sites to gather data - Learning Maps - in readiness for the October mtg.

**14 October mtg:**

- Flemington and Sherwood went to the Regional Hui in Lower Hutt between mtgs
    - Need more to attend these hui
    - The CHB network is large compared to others - it may be that it splits into smaller groups for different things
    - Members need to commit to them or they are not very effective.
    - School improvement programmes in schools had not been achieving any great gains for the kids whereas the change to teacher practice and school processes, through being in the LCN process was making a bigger difference
- More consistent data was available for analysis by members
- There seems to be a feeling of not going anywhere by some of the members -
- Rob highlighted that this is not an uncommon feeling for the early stages of LCN growth/establishment

**20 November Mtg:**

- Discussion about the need for commitment to the LCN if it is to be successful - members need to decide this looking to 2015.
- A main pint that was very evident from the data was that teachers do not feel confident to engage children in science because they do not feel confident.
    - Decision to provide PLD for teachers a first step
        - Science Road Show can support this
        - Jessica from Auckland Unit can support this
    - Decision to have two days of PLD for 25 teachers from the LCN in February2015
        - Proviso that they take this back to their schools and staff
        - Meet later in Term 1 to feedback on success/outcomes of what they have done
        - Plan for next step of action - Investigations; Collaboration across schools/Students