



## **Leadership and Culture in NEN Trial schools: The current situation.**

### **NEN Trial Evaluation Report Series: Report N<sup>0</sup> 5a (Principal)**

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## Contents

1.0	Executive Summary.....	3
1.1	Respondent school demographics.....	3
1.2	e-Learning and the use of digital technologies in the respondent schools.....	3
1.3	Reasons for joining the NEN Trial.....	4
1.4	Impact of the NEN Trial on their school.....	4
1.5	Professional development opportunities.....	4
2.0	Method.....	5
3.0	Respondent Demographics.....	6
3.1	Participant School Demographics.....	6
3.2	Experience of respondents.....	7
4.0	e-Learning and the use of Digital Technologies.....	8
5.0	Expectations for the NEN Trial Extension.....	12
5.1	Reasons for joining.....	12
5.2	Impact of the NEN Trial on their school.....	13
6.0	Professional development opportunities.....	17
7.0	General comments.....	18
	Appendix 1: Qualitative Comments.....	19
	Appendix 2: Factor Analysis on e-Learning scale.....	20
	Appendix 3: Analyses of variance for e-Learning scale.....	23

## 1.0 Executive Summary

### 1.1 Respondent school demographics

The response rate for the Principal Survey was 61% (n=62). As Table 1 shows, the respondents were from a wide range of schools within the NEN Trial. For this reason we do believe the data reported here are likely to be representative of schools within the Trial.

One issue worth noting is the under-representation of respondents from low decile schools (n=5, 8%). However, the spread of school roll sizes should make up for this shortcoming, given that other work has shown<sup>1</sup> that size is a key determinant of school practices and need, and that it may be a greater influence than decile.

The respondent principals are generally experienced, with 53% (n=33) having been at their current school for more than five years. Only 8% (n=5) had been a principal for less than two years at any school.

### 1.2 e-Learning and the use of digital technologies in the respondent schools

Respondents were asked to respond to 23 statements regarding the use of e-Learning and digital technologies in their schools. These statements were grouped into three components: culture, capability and collaboration. A six point scale was used which was related to the amount of time and/or number of people each statement was true for.

Key findings related to this section of the survey are:

- The overall mean for **collaboration** ( $\mu = 2.85$ ) – the extent to which digital technologies are used to collaborate with the wider community outside the school gate – was much lower than that for the other two factors.
- The highest mean reported was for **culture** ( $\mu = 4.45$ ) – the extent to which the culture of the school community supports the use of digital technologies and e-Learning.
- The statements with the lowest overall means were related to *students working with other students* and *parents and whānau having access to learning records* ( $\mu = 2.16$  for both).
- The statement with the highest mean was related to the *leadership in the school and the extent to which they supported their teachers to take risks and try new things* ( $\mu = 5.05$ ).
- There were no statistically significant differences between primary and secondary school respondents on these components or the overall question scale (all items combined).
- There were statistically significant differences by region (cluster group) for both the overall question scale and the collaboration component. In both instances the proof of concept schools scored higher than the other schools. They also scored higher on the other two factors although the differences were not statistically significant. There are two possible reasons for this: the proof of concept schools have been on the NEN Trial longer than the other schools and they are the only group not part of a regional loop.
- There were also statistically significant differences for both size and location on the overall e-Learning scale. However, when this was explored further, there did not appear to be any definite trend by either size or location. It may be that the effect of the regional loop is greater than size or location. Nevertheless, this finding does suggest that regional loop differences might be worth investigating further.

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<sup>1</sup> In the Network Learning Communities evaluation it was found that size was a key influence on the culture of schools.

### 1.3 Reasons for joining the NEN Trial

Respondents were provided with a list of potential reasons for joining the NEN Trial and asked to select the main reason their school joined.

No one reason was reported by more than a third of the respondent groups, reflecting the variety of drivers for this group. Secondary school principals reported a wider range of reasons than their primary counterparts.

Two reasons scored highest across both the primary and secondary principals. These were:

- *The decision to join was made at a cluster/loop level* (n=19, 32.2%); and
- *It was an opportunity to enhance/enrich the learning of our students* (n=17, 29%).

### 1.4 Impact of the NEN Trial on their school

Respondents were also asked to indicate the extent to which they expect the NEN Trial to impact on their school in a number of areas using a six point scale. The range of means across the 16 items in this question was small (1.25). Further, there were 11 items where the mean reported levels of impact were between 4.00 (moderately) and 5.00 (strongly) suggesting the respondents expected the NEN Trial to impact across a wide range of areas, but not strongly in any one area.

More specific findings include:

- The lowest level of impact was reported for the *financial cost of running the school* ( $\mu=3.57$ ).
- The highest level of impact was reported for the *effectiveness of the school's ICT infrastructure* ( $\mu=4.82$ ).

Respondents were also asked to indicate whether they expected the NEN trial to increase or decrease costs in terms of time and money for certain activities. The key findings from this question were:

- The majority reported they expected the *financial cost for both professional development and the provision of hardware and software* to increase.
- A majority also expected the *workload of teachers regarding administrative activities* to decrease.

### 1.5 Professional development opportunities

The respondents were asked to identify the type of professional development opportunities their school had offered in the 2011 school year. The most commonly reported professional development was in-school, facilitated by internal staff members, and focussed on the use of digital technologies in the classroom. This was either offered to the whole staff or to groups of staff (n=48, 77.4% for both).

Less than a third of the schools reported using external facilitators for any reason. Further, only 51.6% of respondents (n=32) reported that their staff had undertaken online and/or blended professional development regarding the use of digital technologies in the classrooms.

Very little professional development related directly to the NEN Trial was reported either by in-school or external facilitators (n=23, 37.1% and n=12, 19.4% respectively).

## 2.0 Method

As part of the NEN Trial, participant schools were sent links to three surveys: a Principal Survey, a Teacher Survey, and an ICT Infrastructure Survey. Principals were asked to forward the latter two surveys to the appropriate personnel within their schools. This report summarises the data collected through the Principal Survey. The other two surveys will be reported separately before we synthesise the data we have from all three surveys.

The questions for the survey were developed in consultation with e-Learning personnel from the Ministry as well as external stakeholders (i.e. regional loop management representatives and external PD providers). The primary purpose of the survey was to create a picture of the current situation in schools regarding digital technologies and the NEN Trial Extension. This implementation was also a pilot of the survey tool for later use in the Network for Learning evaluation work. It should be noted that this iteration provides a snapshot only. A repeat of the survey (slightly amended) in June 2012 will enable us to consider changes in the respondent schools over time and the validity of the survey to measure these.

A total of 62 principals completed the survey. This is a 60% return rate across the NEN Trial schools (n=101). While this is a relatively high return rate for an online survey, it should be noted that the NEN Trial schools agreed to participate in evaluation activities when they joined the Trial. For this reason this is a disappointing return rate in the context of the NEN Trial and as such reflects the difficulty of obtaining data from schools.

In some instances we have presented data related to primary and secondary schools as well as overall. This is due to the extent to which primary and secondary are often reported as being very different educational contexts, in terms of both the types of student outcomes focussed on and the nature of teaching and learning that typically occurs. Further, the literature suggests that their response to the integration of digital technologies into their classrooms has also tended to be very different, with primary schools generally being viewed as more innovative and receptive to change.

When analysing the data a range of statistical analyses were undertaken including factor analysis and MANOVAs (multiple analysis of variance) to consider differences between groups. Details on these are included in the appendices. Where statistically significant differences between groups were noted we have referred to these in the report. However, given the sample size it is also important to consider any differences which may be of practical significance, that are not statistically significant but are worth considering further. We have noted these also.

## 3.0 Respondent Demographics

### 3.1 Participant School Demographics

Data from a total of 62 principals have been used in the analyses described in this report. Table 1 describes the key demographics of the respondents' schools, both overall and for primary and secondary schools.

Table 1: Participant school demographics

		Overall		Primary		Secondary	
		n	%	n	%	n	%
Loop	Proof of Concept	10	16.1	3	8.6	7	28.0
	Christchurch	18	29.0	6	17.1	11	44.0
	Nelson/Marlborough	16	25.8	9	25.7	6	24.0
	Ashburton	18	29.0	17	48.6	1	4.0
Size	Very small	13	21.0	11	31.4	0	0.0
	Small	5	8.1	4	11.4	1	4.0
	Medium	22	35.5	17	48.6	5	20.0
	Large	8	12.9	3	8.6	5	20.0
	Very Large	11	17.7	0	0.0	11	44.0
	Extra Large	3	4.8	0	0.0	3	12.0
Decile	Low	5	8.1	2	5.7	2	8.0
	Medium	24	38.7	14	40.0	9	36.0
	High	33	53.2	19	54.3	14	56.0
Location	Rural	16	25.8	14	40.0	2	8.0
	Minor urban	6	9.7	3	8.6	3	12.0
	Secondary urban	7	11.3	6	17.1	1	4.0
	Main urban	33	53.2	12	34.3	19	76.0

In total, 35 (56.5%) of the respondents were primary school principals and 25 (40.3%) were secondary school principals. Two respondents reported being the principal at a special education school. These principals have been included in the overall figures displayed throughout this report. However, they have been excluded from the type breakdowns to maintain anonymity.

There is a reasonable spread across the four regional loops in the NEN Trial and by school size. However, there is a predominance of high decile, urban schools. It needs to be noted that low decile schools are not well represented in the NEN Trial overall. This is something we may need to consider countering in further research to get a more representative spread of schools. However, the spread of school rolls sizes should make up for this shortcoming, given that other work has shown that size is a key determinant of school practices and need, and that it may be a greater influence than decile.

That schools had to have access to ultra-fast broadband to join the NEN Trial is likely to be the key factor driving these demographics.

### **3.2 Experience of respondents**

In order to gauge how experienced these principals are, and the extent to which they are likely to have detailed knowledge of their schools, we asked them to indicate how long they had been a principal, firstly at their current school and then overall (at any school).

The majority of respondents (n=33, 53%) had been principal of their current school for more than five years (Primary – n=17, 49%; Secondary – n=15, 49%). Further, only five (8%) respondents indicated that they were new principals i.e. they had less than two years experience as a principal at any school. This suggests most respondents have a depth of experiential knowledge to bring to the survey.

In addition, respondents were also asked to indicate if, and to what extent, they were required to fulfil a teaching role in the school. The vast majority (n=45, 73%) of respondents were not teaching in any capacity. Of the primary school principals that responded, a total of twelve (34%) had some teaching responsibility, with the majority of those (n=5, 42%) indicating that they taught approximately .3 or .4 FTE.

## 4.0 e-Learning and the use of Digital Technologies

Respondents were asked to complete a question regarding e-Learning and the use of digital technologies in their schools. The purpose of the question was to enable us to better understand the current position of digital technologies and e-Learning in respondents' schools. The items in this question covered a wide range of factors. Many of these have been identified, in the literature, as mediating factors on use; others are descriptors of use.

Respondents were asked to use the following six point response scale to indicate the extent to which each of 23 statements was an accurate description of the current state in their school.

- 1 = not at all true (e.g. true less than 5% of the time, for less than 5% of the people involved).
- 2 = very slightly true (e.g. between 5% and 20% of the time or the people).
- 3 = somewhat true (e.g. between 20% and 40% of the time or the people).
- 4 = moderately true (e.g. between 40% and 60% of the time or the people).
- 5 = strongly true (e.g. between 60% and 80% of the time or the people).
- 6 = very strongly true (e.g. more than 80% of the time or the people).

Given that this was a newly created scale, an exploratory factor analysis was performed on the items to determine the components addressed by the scale and the validity of the scale itself. The details of this are in Appendix 2.

Three components (or sub-scales) were found through this factor analysis. Each has a very high alpha rating suggesting a high level of reliability.

- **Culture:** the extent to which the culture of the school community supports the use of digital technologies and e-Learning.
- **Capability:** the extent to which the staff and students of the school are able to use digital technologies in teaching and learning practices.
- **Collaboration:** the extent to which digital technologies are used to collaborate with the wider community outside the school gate.

As is shown in Figure 1, the overall mean for **Collaboration** was much lower than for either **Culture** or **Capability**. The highest overall mean was for **Culture** ( $\mu = 4.45$ ), while for **Capability** it was 4.22. The overall mean for **Collaboration** was 2.85. This suggests that collaboration beyond the school gates is only occurring in these schools on an average of between 20% and 40% of the time, and/or that only between 20% and 40% of their school staff are doing so.

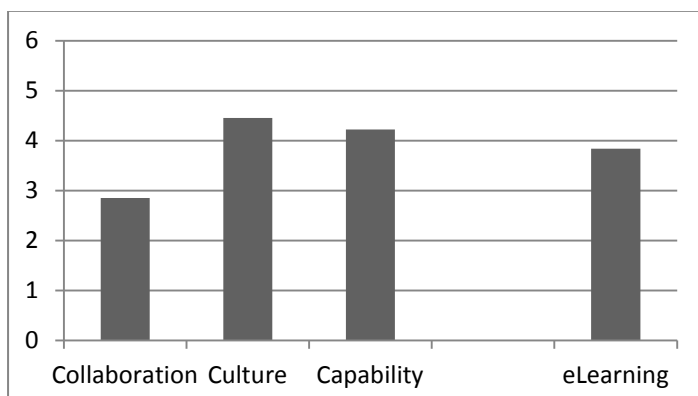


Figure 1: Overall e-Learning component and scale means



Table 2 presents the means and standard deviations for each item within these components. In most instances the standard deviations are greater than 1.00 suggesting wide variance in the responses for each item.

The items with the lowest means ( $\mu = 2.16$ ) are:

- *Students utilise digital technologies to work collaboratively with students from other schools;* and
- *Parents and whānau have digital access to records of learning for their children.*

Both of these are in the **Collaboration** component, while the items with the highest means are within the **Culture** component.

Only one item had a mean above 5.00. This was that: *The leadership in our school actively supports teachers to take risks and try new things in order to promote student learning* ( $\mu=5.05$ ). The next two items with comparatively high means also suggest that these schools are interested in new ideas and practices:

- *The teachers in our school continuously reflect on their current practice using evidence of student learning* ( $\mu=4.75$ ); and
- *The teachers in our school actively seek new ideas and practices through professional learning opportunities* ( $\mu=4.68$ ).

Of interest is the extent to which these views are translated into practice in the classroom. This is something we will consider when we collate the data from across all three surveys.

**Table 2: e-Learning scale means by component.**

Items	$\mu$	sd
<b>Culture</b>	<b>4.45</b>	<b>0.83</b>
The leadership in our school actively supports teachers to take risks and try new things in order to promote student learning	5.05	0.97
The use of digital technologies is explicitly linked to our school wide vision for learning	4.39	1.22
Teachers are involved in professional learning/development related to the use of digital technologies in classroom practices	4.51	1.26
The teachers in our school continuously reflect on their current practice using evidence of student learning	4.75	0.99
The teachers in our school actively seek new ideas and practices through professional learning opportunities	4.68	0.86
Digital technologies are being used in classrooms to enhance/enrich student learning experiences and outcomes	4.27	1.06
Parents and whānau understand the importance of e-Learning to achieving our school wide vision for student learning	3.62	1.11
The Board understands the importance of e-Learning to achieving our school wide vision	4.56	1.18
Teachers understand the importance of e-Learning to achieving our school wide vision for student learning	4.23	1.07
<b>Capability</b>	<b>4.22</b>	<b>0.94</b>
Our staff has access to the digital technologies they need for effective teaching and learning in a 21st century learning context	4.61	1.15
e-Learning is an integral part of our school wide planning	3.95	1.35
Teachers have the necessary expertise (skills and knowledge) to integrate digital technologies into their classroom practice	4.02	0.90
Students have the necessary expertise to use digital technologies to enhance/enrich their learning experiences	4.27	0.94
Our students have access to the digital technologies they need to achieve to their potential in all areas of their schooling	4.02	1.26
The necessary technical support is available in our school to ensure reliable access to the Internet and other digital tools	4.46	1.32
<b>Collaboration</b>	<b>2.85</b>	<b>1.00</b>
Students utilise digital technologies to access external experts to support their learning	3.20	1.09
Parents and whānau have digital access to the work their children have completed or published (via wikis, blogs, e-portfolios)	2.95	1.55
Parents and whānau have the opportunity to actively participate in their childrens learning through interactive digital tools	2.67	1.27
Our school works closely with the wider community and other organisations to ensure we are able to meet the needs of our students in a digital environment	3.39	1.29
Parents and whānau have digital access to records of learning for their children	2.16	1.44
Teachers collaborate with other schools and colleagues using digital technologies	3.38	1.43
Students utilise digital technologies to work collaboratively with students from other schools	2.16	1.05
Teachers in our school are guided by students on decisions about which digital technologies to adopt and how best to use them	2.84	1.33

In analysing these data we undertook a series of MANOVAs (multiple analyses of variance) and univariate ANOVAs to determine whether there were any statistically significant differences between groups within our sample. Detail on this process and the findings are provided in Appendix 3. The results are discussed below.

There were no statistically significant differences between primary and secondary schools on either the overall e-Learning scale or the separate components. In fact, they were very similar with no practically significant differences either. This is interesting given the literature often claims that secondary schools are not as innovative, or digital, as primary. Nor were there any statistically significant differences by decile (again a demographic often quoted as mediating practices). It should be noted though that the participant schools are predominantly high decile.

There was, however, a statistically significant effect of regional group on their scores on the **e-Learning** scale as a whole<sup>2</sup>. There was also a statistically significant difference for the **Collaboration** component<sup>3</sup>. In all instances, the group with the highest mean levels was the Proof of Concept schools. These schools have been on the NEN Trial for the longest; they are also the only schools not part of a regional loop. Given they are dispersed across New Zealand it is possible they have had to collaborate outside their school more than others.

There were also statistically significant effects for both roll size<sup>4</sup> and school location<sup>5</sup> on the overall e-Learning scale. However, there were no statistically significant effects for each of the individual components for either.

When we explored the statistically significant effects more closely there was no instantly recognisable trend by either size or location. In fact the means were all very similar (Table 3) suggesting the statistical difference was between one or two groups within a category only. For school size the statistically significant difference is likely to be between small and large schools. In terms of location it would appear that schools in minor urban areas have scored significantly higher than schools in other areas, and that schools in secondary urban areas score much lower.

It could be that other factors, such as the loop that schools belong to, has a more powerful effect than size or location. Determining whether most of the small schools, for example, are in one particular loop could help explain these data. However, this finding does suggest there are likely to be differences worth investigating with a larger sample.

**Table 3: Means on e-Learning index by school size and location.**

Size groups	Means	Location groups	Means
Very small (<100)	3.85	Rural	3.75
Small (100 – 199)	3.78	Secondary urban	3.47
Medium (200 – 499)	3.86	Minor urban	4.08
Large (500 – 899)	3.91	Main urban	3.92
Very large (900 – 1499)	3.79		
Extra large (>1500)	3.81		

<sup>2</sup>  $\Theta = .30, F(4,57) = 4.28, p = .004.$

<sup>3</sup>  $F(3,58) = 3.10, p < .05$

<sup>4</sup>  $\Theta = .36, F(5,54) = 3.91, p < .01$

<sup>5</sup>  $\Theta = .28, F(4,55) = 3.83, p < .01$

## 5.0 Expectations for the NEN Trial Extension

Respondents were also asked a series of questions related to their reasons for joining the NEN Trial Extension and their expectations for its impact on their school.

### 5.1 Reasons for joining

Respondents were presented with a list of potential reasons for joining the NEN Trial and asked to select the **main** reason their school joined.

As Figure 2 clearly shows two reasons scored highest across both primary and secondary principals:

- *The decision to join was made at a cluster/loop level* (overall n=19, 32.2%; primary = 13, 38%; secondary = 6, 24%). This was 37% of all schools who were part of a loop.
- *It was an opportunity to enhance/enrich the learning of our students* (overall n=17, 29%; primary = 11, 32%; secondary = 6, 24%).

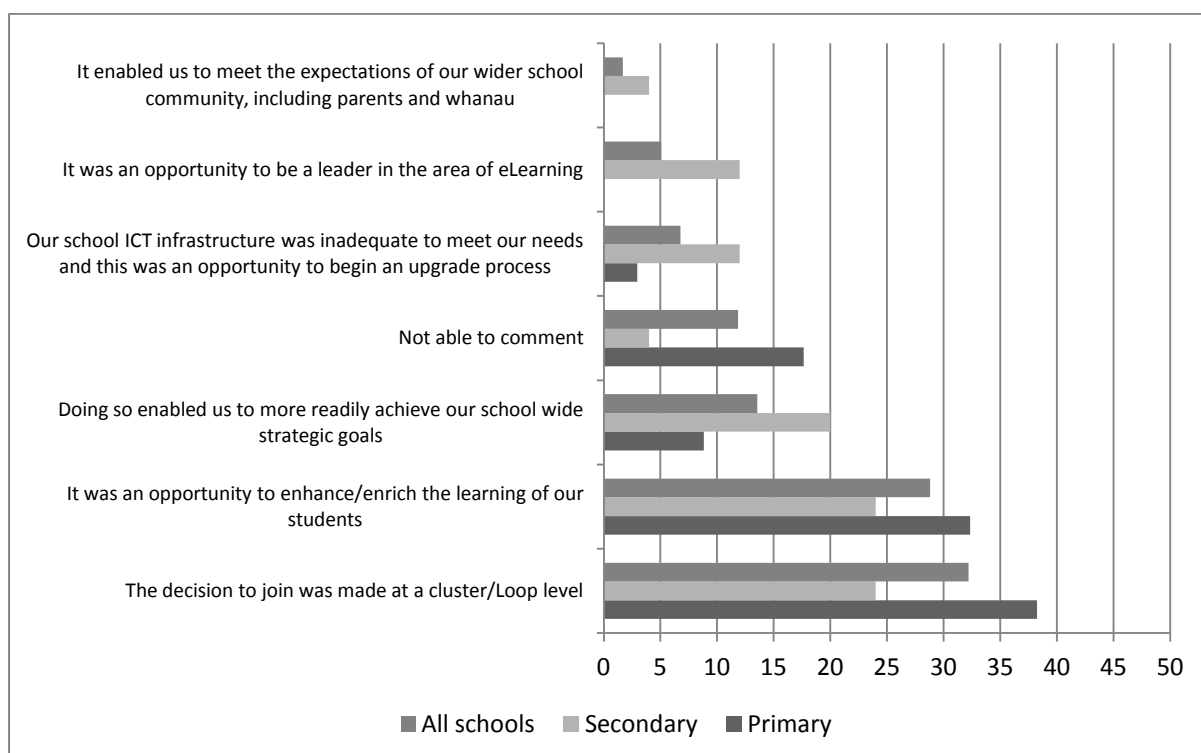


Figure 2: Percentage of schools overall and by type reporting each main reason for joining the NEN Trial.

There were a number of differences evident between the reasons offered by primary school respondents and those by secondary(although the two main reasons were the same):

- Secondary school principals offered a wider range of reasons than their primary counterparts.
- No primary schools mentioned either *the opportunity to be a leader in the area of e-Learning* or *meeting the expectations of their wider school communities*. Both these reasons were reported by a small number of secondary schools (n=3, 12%; n=1, 4% respectively).
- Only one primary school mentioned the need to upgrade their school infrastructures as a reason compared with three secondary schools (12%).
- Secondary school principals were more likely to report achieving their school wide strategic goals (n=5, 20%) compared with their primary counterparts (n=3, 9%).

- A relatively large proportion of the primary school principals felt unable to comment (n=6, 18%); only one secondary principal felt this way.

## 5.2 Impact of the NEN Trial on their school

The respondents were also presented with a list of areas/different activities within their school and asked to rate the level of impact they expected access to ultra-fast broadband and/or the NEN Trial to have on each. A six-point, positively packed scale was used for this question: 1 = no impact, 2 = very slight impact, 3 = slight impact, 4 = moderate impact, 5 = strong impact and 6 = very strong impact.

Figure 3 shows the mean score for each item for primary and secondary schools; Table 4 displays the frequencies and descriptive statistics. Key findings include:

- The range of means across the items is small (1.25) with the majority of the items (n=11) having a mean level of impact greater than 4.00 (moderate), suggesting that schools expect the NEN Trial to impact across a number of areas in their schools. That none of the items have a mean greater than 5.00 suggests that they also do not expect this impact to be very strong.
- The lowest level of impact is reported for the *financial cost of running the school* ( $\mu=3.57$ ) and the highest for the *effectiveness of the school ICT infrastructure* ( $\mu=4.82$ ).
- As Figure 3 indicates there are no large differences between the mean responses from primary and secondary respondents. Areas where primary school respondents report higher mean levels of expected impact than secondary are:
  - *Student engagement in classroom activities;*
  - *Student skills in using ICT (digital literacy);*
  - *Efficiencies in completing administrative tasks within the school; and*
  - *The workload of teachers with regard to administrative tasks.*
- The only area where secondary school respondents report a slightly higher mean than their primary colleagues is: *The involvement of parents and whānau in the learning of their children*. This may be due to an already higher level of involvement in primary schools.

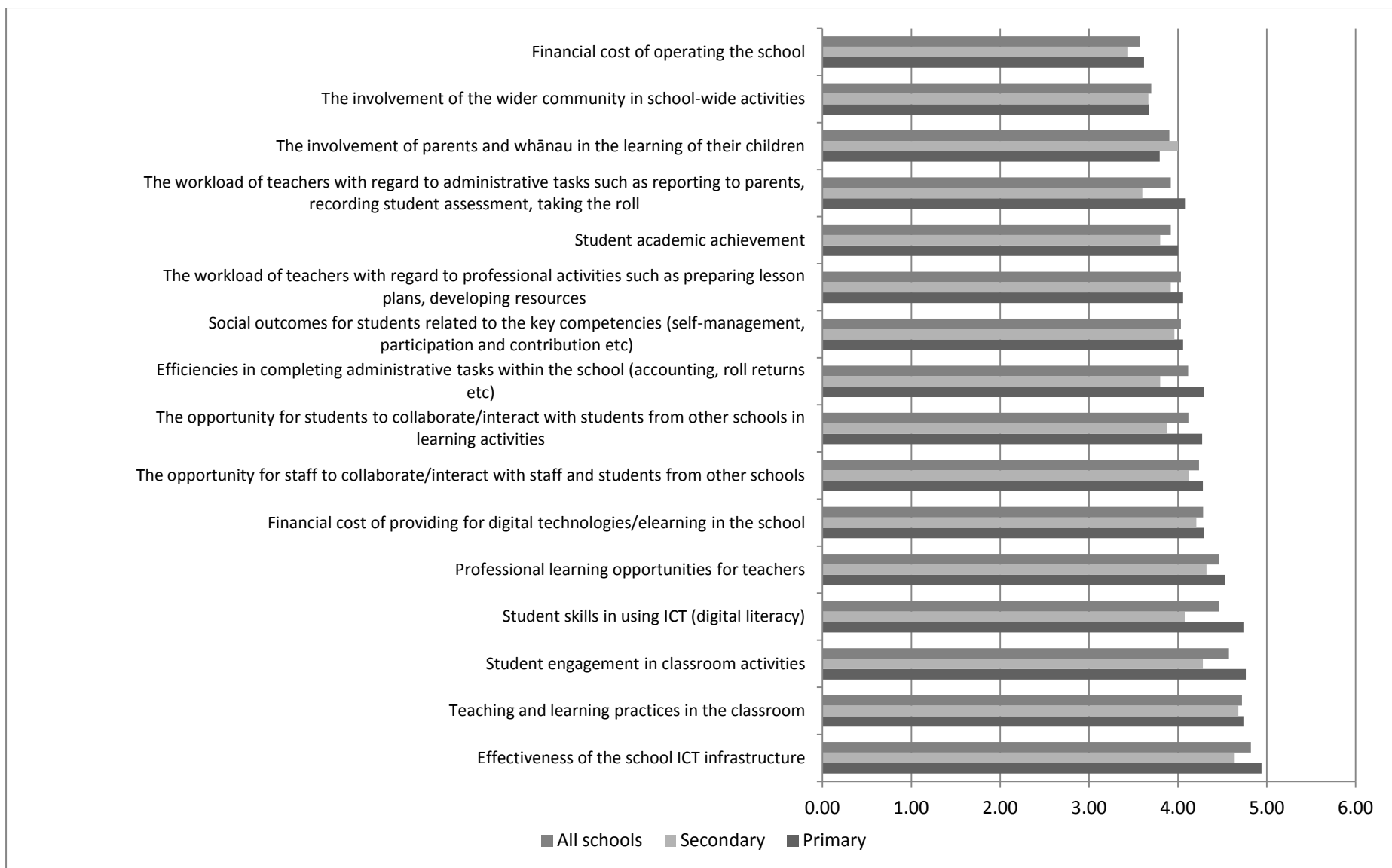


Figure 3: Mean levels of expected impact of NEN Trial by Primary and Secondary Schools and overall.

Table 4: Descriptive statistics for expected impact of the NEN Trial.

	N	1		2		3		4		5		6		$\mu$	SD
		n	%	n	%	n	%	n	%	n	%	n	%		
Effectiveness of the school ICT infrastructure	61	1	1.6	1	1.6	4	6.6	13	21.3	25	41.0	17	27.9	4.82	1.07
Teaching and learning practices in the classroom	61	0	0.0	1	1.6	6	9.8	14	23.0	28	45.9	12	19.7	4.72	0.95
Student engagement in classroom activities	61	0	0.0	1	1.6	10	16.4	15	24.6	23	37.7	12	19.7	4.57	1.04
Student skills in using ICT (digital literacy)	61	0	0.0	2	3.3	9	14.8	18	29.5	23	37.7	9	14.8	4.46	1.03
Professional learning opportunities for teachers	61	1	1.6	3	4.9	5	8.2	20	32.8	22	36.1	10	16.4	4.46	1.12
Financial cost of providing for digital technologies/e-Learning in the school	60	1	1.7	3	5.0	9	15.0	24	40.0	11	18.3	12	20.0	4.28	1.19
The opportunity for staff to collaborate/interact with staff and students from other schools	59	2	3.4	9	15.3	3	5.1	16	27.1	17	28.8	12	20.3	4.24	1.43
The opportunity for students to collaborate/interact with students from other schools in learning activities	60	2	3.3	8	13.3	8	13.3	16	26.7	15	25.0	11	18.3	4.12	1.40
Efficiencies in completing administrative tasks within the school (accounting, roll returns etc)	61	1	1.6	8	13.1	7	11.5	21	34.4	15	24.6	9	14.8	4.11	1.28
Social outcomes for students related to the key competencies (self-management, participation and contribution etc)	61	1	1.6	5	8.2	8	13.1	28	45.9	15	24.6	4	6.6	4.03	1.06
The workload of teachers with regard to professional activities such as preparing lesson plans, developing resources	61	1	1.6	3	4.9	11	18.0	30	49.2	10	16.4	6	9.8	4.03	1.05
Student academic achievement	61	1	1.6	3	4.9	13	21.3	30	49.2	11	18.0	3	4.9	3.92	0.97
The workload of teachers with regard to administrative tasks such as reporting to parents, recording student assessment, taking the roll	61	4	6.6	4	6.6	10	16.4	24	39.3	13	21.3	6	9.8	3.92	1.28
The involvement of parents and whānau in the learning of their children	61	5	8.2	5	8.2	11	18.0	16	26.2	18	29.5	6	9.8	3.90	1.40
The involvement of the wider community in school-wide activities	60	5	8.3	6	10.0	10	16.7	25	41.7	9	15.0	5	8.3	3.70	1.32
Financial cost of operating the school	61	4	6.6	11	18.0	13	21.3	18	29.5	9	14.8	6	9.8	3.57	1.38

The respondents were also asked to indicate the direction of the change they expected in those areas related to cost and workload (Figure 4). They could indicate whether they thought these would increase, decrease or not change.

The majority of respondents reported that they expected financial cost for providing both professional development and hardware/software to increase. They were evenly divided over whether the financial cost of operating the school would increase or decrease. While most expected the workload of teachers for administrative tasks to decrease they were almost evenly divided about whether their professional workloads would increase or decrease.

The only real difference between primary and secondary is on *“The workload of teachers regarding professional activities”*, with most (n=15, 60%) of secondary principals expecting an increase and only thirteen (38%) of primary principals expecting an increase.

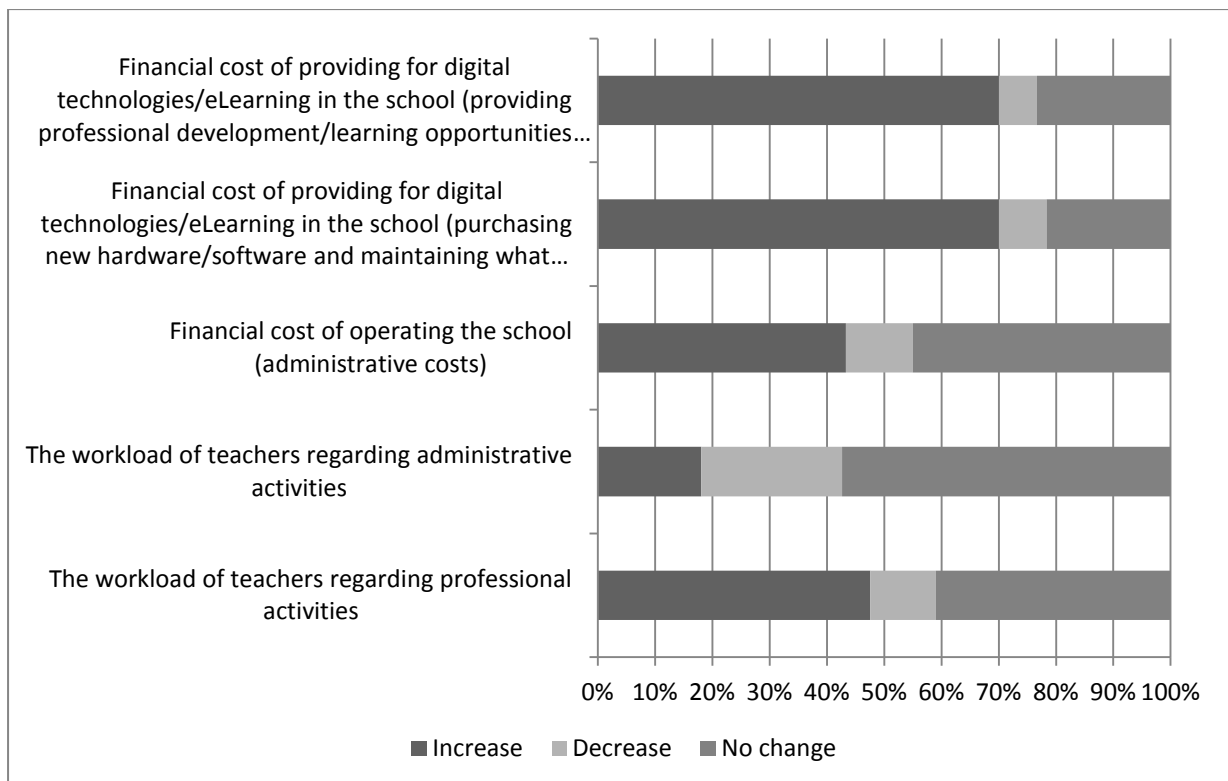


Figure 4: Percentage of respondents responding in each direction for each area



## 6.0 Professional development opportunities

Respondents were asked to identify the type of professional development opportunities the school had offered to their staff in the 2011 school year (Table 5).

The two most commonly reported opportunities were related to the use of digital technologies in the classroom and were facilitated by members of the school staff rather than external facilitators. This was either as a whole staff (n=48, 77.4%) or to groups of staff (n=48, 77.4%). Not surprisingly, primary school respondents were more likely to report whole school sessions and secondary to report group sessions.

Interestingly, only 51.6% (n=32) of respondents reported that their staff had opportunities to undertake online and/or blended professional development courses regarding classroom use of technology. They were slightly more likely to have provided such opportunities in a face-to-face environment (n=36, 58.1%). What these data do not tell us is whether this is due to the availability of courses or a reluctance to undertake online courses.

What is clear is there is a preference for the use of their staff as facilitators. This could be for any number of reasons. However, it does suggest the potential for a narrow view of what is possible and for any pathfinding staff to be working largely in isolation as the needs of other staff are focussed on.

**Table 5: Professional development opportunities in the 2011 school year**

	Overall		Primary		Secondary	
	n	%	n	%	n	%
In-school whole staff sessions focused on the use of digital technologies in classroom practice, using members of our staff as facilitators	48	77.4	28	75.7	18	72.0
In-school sessions for groups of staff (e.g. in content areas, syndicates, needs based) focused on the use of digital technologies in classroom practice, using our staff as facilitators	48	77.4	24	64.9	22	88.0
Opportunities for individual staff members to undertake face-to-face, external professional development courses regarding the use of digital technologies in classroom practice	36	58.1	20	54.1	15	60.0
Opportunities for individual staff members to undertake online and/or blended (online and face-face) professional development courses regarding the use of digital technologies in classroom practice	32	51.6	16	43.2	15	60.0
In-school sessions focussed on developing teacher skill in using content and services available through the NEN using members of our staff as facilitators	23	37.1	12	32.4	10	40.0
In-school sessions for groups of staff (e.g. in content areas) focused on the use of digital technologies in classroom practice, using external facilitators	21	33.9	12	32.4	8	32.0
In-school whole staff sessions focused on the use of digital technologies in classroom practice, using external facilitators	19	30.6	11	29.7	7	28.0
In-school sessions focussed on developing teacher skill using content and services available through the NEN using external facilitators	12	19.4	6	16.2	6	24.0

The respondents were also asked whether their school was, or had ever been, part of an ICT PD contract. The majority (n=34, 55.7%) of principals reported that their schools had been a part of an ICT PD contract, but were not currently. Within that number, there were twenty-four primary principals (70.6%) and only ten secondary principals (40%). Only ten (16.4%) responding principals reported that their schools were currently involved in an ICT PD contract.

## **7.0 General comments**

Finally, respondents were given the opportunity to make a general comment regarding the NEN Trial. Only eight primary school and five secondary school principals did so (21% of all respondents). Their comments are recorded in Appendix 1.

In general, the primary school respondents appeared to be optimistic about the potential of the NEN Trial to have an impact on their schools. Most expressed a desire to move forward in their use of digital technologies. Four did mention some level of uncertainty about what being on the NEN Trial would offer their school. One was worried that it was going to become an “extended ICT PD contract” and this is worth noting. Another mentioned their concern that their parent community did not have the capacity to engage with the school through digital technologies.

Two of the five secondary school principals commented on the impact of the earthquakes, as did one primary principal. One principal reported having high expectations of the trial but being unsure of the Ministry’s expectations and whether they were the same. The other two were very optimistic about the opportunity provided their school.

## Appendix 1: Qualitative Comments

### Primary school responses

- Being part of the NEN trial has had no impact on our school as the difference in ICT impact was achieved through the ICT PD cluster development we were involved in previously and access to fibre via an agreement with our local district council and Inspire Net. All these benefits were being realised before we were given access to KAREN (which I don't know how to use). Therefore, we are continuing to build on what was already in place
- I appreciate the opportunity to part of this programme but must acknowledge the impact the earthquakes have had on our ability to fully participate in all opportunities as we are very focussed on student and staff emotional wellbeing and I am reluctant to put pressure on my staff to take on too much at this time.
- I think the concerning thing is not knowing what we don't know and as a cluster trying to lead this direction with such a range of existing skills and abilities across the cluster schools. We do not wish it to become an extended ICT PD. We need to move further than that. Regarding the links to our parents/whānau, many of ours do not have access to fast broadband, let alone ultra fast. Some are still on dial-up and being rural is a definite disadvantage. Some are also unskilled at accessing digital technologies, so much work needs to be done in this area from us.
- We are part of the Nelson Loop. Recently the Loop has appeared to be a bit slow - we are hoping that being part of the NEN trial will rectify this situation.
- We believe this initiative will refocus us on the use of digital technologies. Working on upgrade of hardware
- We have just gone onto NEN and as such are uncertain of the future direction, but are certain that it will be exciting.
- We have the fibre connected but I can't see any change in internet speed and I have no idea what the NEN trial will offer our school. I am very keen to develop e-Learning and very open to making the most of this trial.
- We hope that the NEN trial will really develop teaching and learning opportunities for staff and therefore the children will become more aware of tools they can use to enhance their learning.

### Secondary school responses

- I appreciate our District Council having the foresight to put in fibre optic cabling that enables us to be on Karen. The staff are using research methods in the computer labs far more than ever before.
- I would like a briefing about what the Ministry expects from the trial. I have high expectations of what NEN can deliver for the College but I am not sure if the Ministry is looking the same way. In particular the complete integration of an SMS from Student to Parent to teacher. Not sure yet which way to go an off-the-shelf one (eg Ultranet) or developing our own using Moodle
- Thank you for the opportunity - these are very exciting times and we have lots to learn and lots to share!!
- The Canterbury earthquakes have significantly affected the school's responsiveness to the NEN trial Implementation - staff have had too many other areas to cope with to really do justice to the resource
- You need to consider the significant impact of the earthquakes and site sharing on the Chch schools ability to engage in NEN and also in implementing ICT.

## **Appendix 2: Factor Analysis on e-Learning scale**

Of the 62 Principals who completed the survey only 54 answered all questions on the e-Learning index and were therefore appropriate for inclusion in our factor analysis.

A principal components analysis (PCA) was conducted on the 23 items with orthogonal rotation (varimax). An initial analysis was run to obtain eigenvalues for each component in the data. Three components had eigenvalues over Kaiser's criterion of 1 and in combination explained 23% of the variance. These three components were retained in the final analysis.

Table A1 shows the factor loadings after rotation. The items that cluster on the same components suggest :

- component 1 represents the *culture* of the school community being conducive to digital technologies;
- component 2 represents the *capability* of the staff and students to utilise digital technologies; and
- component 3 represents using digital technology for *collaboration* outside of their own school.

Cronbach's alpha was calculated for each individual component scale which provides an indication of the reliability of these scales (i.e. that they consistently measure what they claim to). Culture = .91, Capability = .90 and Collaboration = .90 indicating very high levels of validity.

Table A1: Standard Regression Coefficients for Principals e-Learning index

Rotated Factor Pattern (Standardized Regression Coefficients)				
		Culture	Capab- ility	Collab- oration
1	Our staff has access to the digital technologies they need for effective teaching and learning in a 21st century learning context	0.05	<b>0.86</b>	0.06
2	e-Learning is an integral part of our school-wide planning	0.27	<b>0.49</b>	0.29
3	Teachers have the necessary expertise (skills and knowledge) to integrate digital technologies into their classroom practice	0.33	<b>0.62</b>	0.02
4	The leadership in our school actively supports teachers to take risks and try new things in order to promote student learning	<b>0.55</b>	0.37	-0.16
5	The use of digital technologies is explicitly linked to our school wide vision for learning	<b>0.62</b>	-0.20	0.34
6	Students have the necessary expertise to use digital technologies to enhance/enrich their learning experiences	0.28	<b>0.41</b>	0.15
7	Teachers are involved in professional learning/development related to the use of digital technologies in classroom practices	<b>0.69</b>	0.01	0.19
8	The teachers in our school continuously reflect on their current practice using evidence of student learning	<b>0.60</b>	0.24	-0.24
9	Our students have access to the digital technologies they need to achieve to their potential in all areas of their schooling	-0.01	<b>0.86</b>	0.03
10	The necessary technical support is available in our school to ensure reliable access to the Internet and other digital tools	0.10	<b>0.52</b>	0.18
11	The teachers in our school actively seek new ideas and practices through professional learning opportunities	<b>0.54</b>	0.30	-0.31
12	Digital technologies are being used in classrooms to enhance/enrich student learning experiences and outcomes	<b>0.66</b>	0.30	0.05
13	Students utilise digital technologies to access external experts to support their learning	0.16	0.24	<b>0.36</b>
14	Parents and whānau understand the importance of e-Learning to achieving our school wide vision for student learning	<b>0.42</b>	<b>0.41</b>	0.14
15	The Board understands the importance of e-Learning to achieving our school wide vision	<b>0.52</b>	0.14	0.24
16	Parents and whānau have digital access to the work their children have completed or published (via wikis, blogs, e portfolios)	0.34	-0.15	<b>0.66</b>
17	Teachers understand the importance of e-Learning to achieving our school wide vision for student learning	<b>0.68</b>	-0.03	0.32
18	Parents and whānau have the opportunity to actively participate in their children's' learning through interactive digital tools	0.27	-0.08	<b>0.74</b>
19	Our school works closely with the wider community and other organisations to ensure we are able to meet the needs of our students in a digital environment	0.31	0.18	<b>0.47</b>
20	Parents and whānau have digital access to records of learning for their children	-0.26	0.13	<b>0.86</b>
21	Teachers collaborate with other schools and colleagues using digital technologies	-0.09	0.04	<b>0.78</b>
22	Students utilise digital technologies to work collaboratively with students from other schools	-0.14	0.07	<b>0.88</b>
23	Teachers in our school are guided by students on decisions about which digital technologies to adopt and how best to use them	0.14	0.27	<b>0.46</b>
eigenvalues		1.07	2.12	10.95
% of variance		8.3%	7.1%	7.6%
Cronbach's $\alpha$		0.91	0.90	0.90

### Appendix 3: Analyses of variance for e-Learning scale

Both a MANOVA (using Roy's Greatest Root) and separate univariate ANOVAs were undertaken on the data gathered from the question regarding digital technologies and e-Learning in the respondent schools. These enabled us to consider differences both on the overall e-Learning scale and on individual components within the scale.

These statistical analyses enabled us to consider whether there were any statistically significant differences between the categories of respondent. The categories considered were school type (primary or secondary); regional loop (Nelson, Christchurch, Ashburton, Proof of Concept); school size, and school decile. Table A2 summarises the results of these analyses.

Table A2: Results of the analyses of variance undertaken

Category	e-Learning	Culture	Capability	Collaboration
Type	F(4,55)=0.7, p>.05	F(1,58)=0.26, p>0.5	F(1,58)=0, p >05	F(1,58)=0.26, p>05
Regional loop	<b><math>\Theta = .30</math>, F(4,57) = 4.28, p = .004.</b>	F(3,58) = 0.82, p > .05	F(3,58) = 2.18, p > .05	<b>F(3,58) = 3.10, p &lt; .05</b>
Size	$\Theta = .36$ , F(5,54) = 3.91, p < .01			
Decile				
Location				

