NZCER evaluation of the Regional Education for Enterprise (E4E) Clusters

**Report on teacher and lead teacher survey data
from Term 4, 2007**

Rachel Bolstad, Josie Roberts, Sue McDowall

About the Regional Education for Enterprise Clusters Evaluation

NZCER's evaluation is tracking and supporting developments in four regional E4E clusters (Northland, West Coast, Nelson, and Manukau) through 2007 and 2008. Multiple forms of qualitative and quantitative data are being collected from each of the four regional clusters.

The evaluation will support the ongoing development of E4E within individual schools, regional clusters, and nationally. It will examine the processes by which the clusters establish and pursue E4E and the outcomes that are achieved (in relation to both local and national objectives), and provide evaluation feedback that is engaging and meets the needs of different audiences.

The evaluation is funded by the Ministry of Education, New Zealand Trade and Enterprise, and the Tindall Foundation.

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Introduction

In term 4 2007, NZCER sent out survey packs to schools involved in the E4E regional clusters. Each pack included one E4E lead teacher survey, up to five surveys for other teachers who were either in the school's Education for Enterprise cell, or who had used approaches that align with Education for Enterprise ideas in their classes in 2007; and up to forty surveys for students who have been involved in a class or extra-curricular project or unit of work which has involved an Education for Enterprise type of approach. This report provides a summary of the responses we received from teachers and lead teachers[1]. For further information about the evaluation of the Regional Clusters Initiative, please refer to the interim report available at: www.nzcer.org.nz/pdfs/16246.pdf

Please note that this teacher and lead teacher survey data does not appear in the interim report, as the report was produced before the surveys were returned and analysed. This summary of teacher and lead teacher data provides an additional stage of feedback for schools and clusters involved in E4E. Further reporting will occur during 2008, and a final report will be available in 2009.

Survey returns

Table 1 below shows the number of lead teacher, teacher, and student surveys received from schools in each of the four clusters. Twenty lead teachers returned a survey, as did 51 other teachers from 22 schools. 506 student surveys were received from across 22 schools.

Thirteen out of 20 lead teachers (65 percent) said there was an enterprise cell or enterprise group at their school. Thirty-one out of 51 teachers (61 percent) said they were members of their school's enterprise cell or enterprise group.

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[1] In Term 1 2008, all schools who returned student surveys were sent a report summarising the survey's findings for their own students in relation to the overall sample. A report on the student survey data is available at [INSERT URL HERE]

Table 1 **Number of staff and student surveys returned at the end of 2007**

	Lead teacher	Teacher	Students
Northland Cluster	6 (6 schools)	11 (6 schools)	134 (6 schools)
Nelson Cluster	5 (5 schools)	14 (5 schools)	137 (5 schools)
Auckland Cluster	3 (3 schools)	9 (3 schools)	82 (3 schools)
West Coast Cluster	6 (6 schools)	17 (8 schools)	153 (7 schools)
Total	20 (20 schools)	51 (22 schools)	506 (22 Schools)

Interpreting the graphs in this report

The information is based on two types of responses from teachers. They were asked to give their opinions as ratings of sets of items on Likert-type scales (such as "strongly agree" to "strongly disagree") and they were also asked to write comments in response to some open questions. These comments have been coded (grouped into broad categories) and the percentage of teachers giving each response is presented in tables. At times we present teachers' comments verbatim to illustrate the range of ideas expressed.

How this report is organised

This report is organised into the following sections:

The nature of the E4E learning activities: This section analyses the E4E activities described by the teachers who responded to the survey. We look at which Year levels and curriculum areas were involved, and discuss the ways that students, teachers, and business and community partners (if involved) contributed to the activities, and the kinds of learning opportunities available to students (from the teachers' points of view)

The role of the teacher in E4E: This section discusses how teachers viewed their roles in their E4E teaching, and the challenges associated with this.

Relationships with partner organisations: This short section looks at what teachers said about working with a community or business partner.

Extent of, and support for, E4E practice in the schools: This section looks at the *extent* of E4E practice, how well supported it is by staff, how many students are involved, and the degree to which it is embedded in school culture.

The role and priorities of E4E lead teachers: This section looks at the major aspects of the role of the E4E lead teachers/Enterprise coordinators, and what these teachers consider to be priorities for their schools over the next two years.

In the final section, we suggest some questions that could be discussed in your school or regional cluster.

The nature of E4E learning activities

We asked teachers and lead teachers to think of <u>one</u> 2007 unit of work they had taught in which students had opportunities to become more enterprising. Questions about practices, impacts, and outcomes of E4E were answered in relation to this unit of work. In this section we combine responses from lead teachers (n=20) and other teachers (n=51), giving a total of 71 individual respondents.

Year levels of students involved

Table 2 shows the year levels of the students involved in the example described by the teachers and lead teachers. Just over 50 percent of the examples (36 out of 71) involved students in Years 9-10. Just over a third involved students in Years 11-13. Only 7 examples involved students of primary age, but this is not surprising since the sample included mostly secondary schools, with a few area schools.

Table 2 **Student year levels in E4E units described by teachers/lead teachers**

	Number of units/examples
Did not specify	3
Years 1-6	1
Years 7-8	6
Years 9-10	36
Years 11-13	25
Total	71

Curriculum areas involved

Sixty-two percent of the examples described by teachers and lead teachers involved a single curriculum area. Eighteen percent involved 2 or 3 curriculum areas, and 23 percent involved between 4 and 7 curriculum areas. Table 3 shows the most common curriculum areas that teachers said were involved in their E4E unit or activity. The two most common areas were technology and enterprise studies, followed by social studies.

Table 3 **Curriculum areas involved in the E4E units described by staff**

	Percentage of examples (n= 71)
Technology	42
Enterprise studies	35
Social studies/social science	20
Maths	18
English	14
Art	10
PE and Health	9
Media studies	7
Science	4
Languages	3
Other[2]	21

Note: Teachers could select more than one curriculum area, therefore percentages total more than 100

Involvement of business or community partners

Just over three quarters (76 percent) of the examples described by teachers and lead teachers involved students working with people from businesses or the community/hāpori. The most common types of partners were small/medium businesses (35 percent of examples), schools or education institutions (21 percent), and community groups (17 percent). Some schools worked with central or local government agencies, large companies, charitable organisations, or other groups such as the New Zealand Army or a local theatre group.

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[2] Subjects and curriculum areas in the "other" category included religious studies, accounting or economics, and agriculture/horticulture.

Figure 1 Types of business and community partners
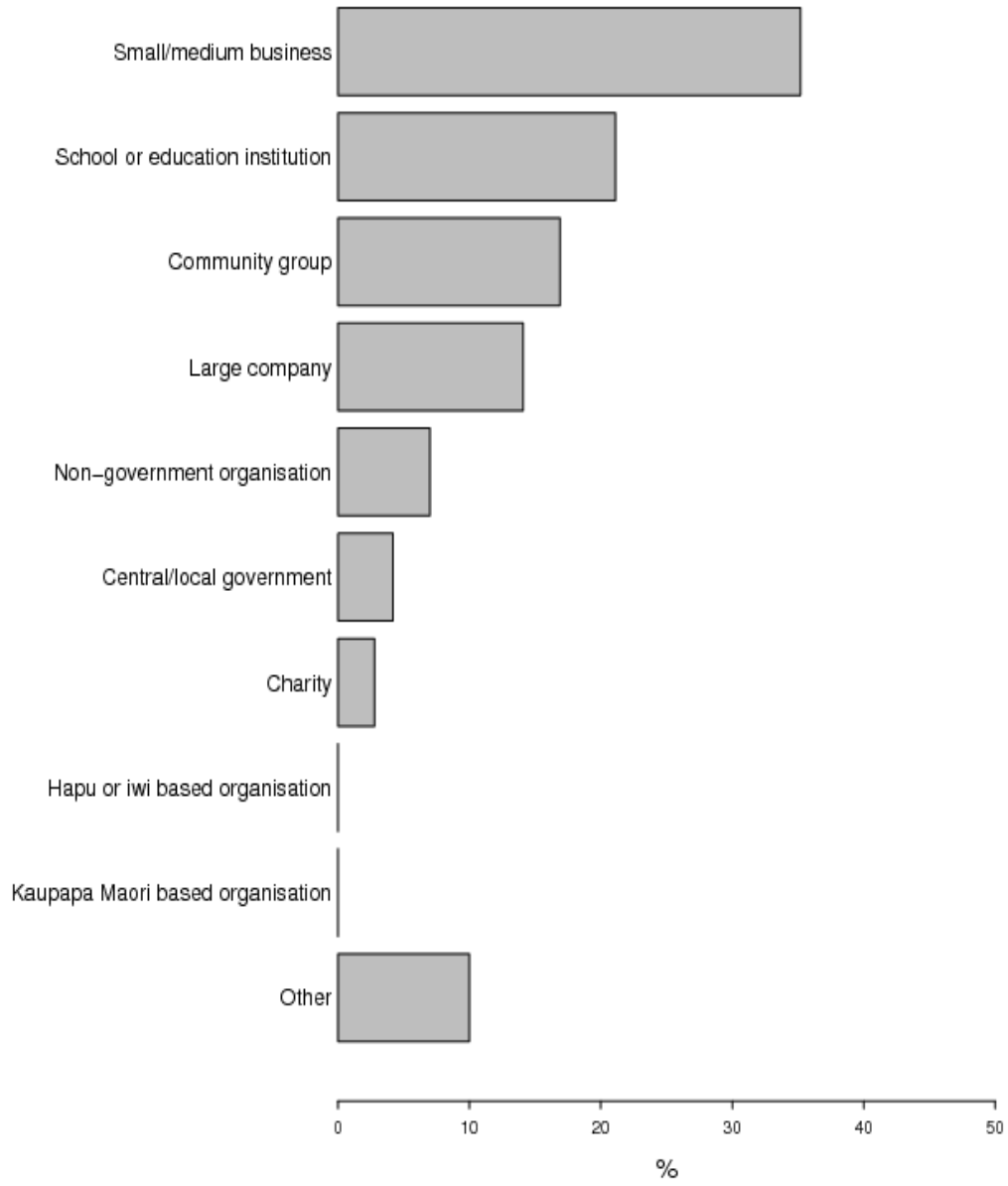
Descriptions of the E4E activities

Different ways of classifying E4E approaches

In term 3 2007, NZCER researchers visited 15 schools to interview students, teachers, and other people involved in E4E. Based on those interviews, we suggested that the E4E activities described to us comprised six general kinds of approaches to E4E (discussed in the interim report published in March 2008, available at www.nzcer.org.nz/pdfs/16246.pdf). These six kinds of approaches were:

• Identifying enterprising opportunities within existing school approaches
• Business or community expert as teacher
• Teacher-created "purpose"'
• Students creating real knowledge to meet a real need as a practice activity (with no-one actually using their work for a real purpose)
• Teacher-directed work for a real purpose in the real world
• Student-led creation of new knowledge for a real purpose in the real world

The six approaches can be envisaged as forming a loose continuum, with numbers 1 and 2 being closest to current conventional schooling approaches, and numbers 5 and 6 being closest to a "21st century learning" approach (although the ways and contexts in which these approaches are taken up may alter their position on this continuum). The typology is intended as a way of stimulating teachers and school leaders to reflect on their current E4E teaching approaches, and to think about how they might like to progress their E4E towards a 21st century learning approach. It is not intended to be used as strict hierarchical system for classifying enterprising education approaches, but is a useful guide for considering the points of difference between various E4E examples. In the interim report (available at http://www.nzcer.org.nz/pdfs/16246.pdf) we identified the benefits, challenges and opportunities associated with each of these kinds of approaches.

Categorising the teacher and lead teacher end-of-year survey data

In our analysis of the teacher and lead teacher end-of-year survey data, we were able to sort the 71 examples of E4E units of work described by teachers and lead teachers into three broad categories, based on teachers' responses to certain questions. These categories bear some resemblance to the six-category typology discussed above, but do not match them entirely, as discussed in the analysis.

The three categories of E4E activity we identified in the teacher and lead teacher survey data were those which involved:

1. Little or no involvement of business and community partners (20 percent)
2. Some partner involvement, but not as the recipient of the students' activities (8 percent)
3. Significant partner involvement - activities for a real purpose in the real world (48 percent)

In the remaining 17 percent of the examples, teachers did not provide enough description to tell which (if any) of these categories the E4E activities might fit into. We describe key characteristics of the three identified groups below.

Group 1: Little or no involvement of business and community partners

There were 14 examples (20 percent of the sample) in which teachers said that there was no business or community partner involvement in the students' E4E learning. Ten teachers or lead teachers provided a written description of such activities, summarised in Table 4.

Table 4 **Descriptions of the E4E activities in group 1**

Subject(s)	Description
Enterprise studies and social sciences	Developing a product to sell at the school market day
Enterprise studies and art	Developing a product to sell at the school market day
Commerce	Studying consumers and consumer law, students had to develop a product testing regime for toilet paper and present an article for "consumer" magazine [However, it does not appear that these articles were actually submitted to consumer magazine]
Science	Making biodiesel from old chip oil, and running the school tractor on this
Hospitality	Undertaking a practical unit standard in coffee making at a polytechnic, then running a coffee business in the school
Mathematics	Challenging students to design new features on cell phones
PE and Health (2 examples)	Becoming aware of the fat content in foods, comparing fat content in different meals, and considering the health effects
Statistics	Identifying a need with the school (student lockers), gathering statistical information on this (weight of student bags), and reporting back to various people within the school[3]
Religious education	Researching food from the bible

This group of activities shares some similarities with approaches 1) and 3) on the E4E typology discussed above, that is:

• Identifying enterprising opportunities within existing school approaches, and
• Teacher-created purpose

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[3] In this example, it appeared that time constraints may have prevented the students' research from being used for its real intended purpose within the school (to canvass the Board of Trustees to provide student lockers), thus the school did not benefit. Had this happened, this example might have been classified into Group 3, as this seems to better reflect its intentions.

As discussed in the first interim report, these kinds of enterprising activities do have some advantages. For example, there is some value in teachers identifying things they already do which could be considered enterprising. Doing this within a subject-bounded classroom, without the involvement of external partners, can make it easier for an individual teacher to establish E4E within their own classrooms. Similarly, when teachers can think of a real-world context or purpose for students' regular learning activities, this can help to make the activity more interesting, engaging, or relevant for the learner. One disadvantage of these kinds of approaches is that teachers might see E4E as "business as usual", meaning that they don't challenge their imaginations to think of new and different ways to take on more enterprising approaches to teaching and learning in their school. A second disadvantage is that students aren't necessarily using their learning to meet a real need or purpose, and thus the school, or the community, might be missing out on what students could have to offer in the way of developing new ideas, knowledge, or services based on their learning.

Who made decisions, and who helped the students?

Figure 2 shows who was involved in various aspects of the decision-making about the students' work/activities, according to teachers in group 1. In most cases, teachers were the main decision-makers about the activities and assessment. Students had a significant role in deciding how their work would be carried out in a little less than half the examples. Regional coordinators helped in shaping the students' activities in one or two examples. As already discussed, the defining feature of this group is the lack of involvement of persons from business or the community.

Figure 3 shows who supported the students by giving advice, feedback, and so on. Students in group 1 most often got help and advice from, and shared their ideas with, other students in their project group or team, or their teacher. One or two classes had some advice or input from someone in business or the community. The most likely groups to benefit from what the students produced were teachers, the students themselves, or other students from their school.

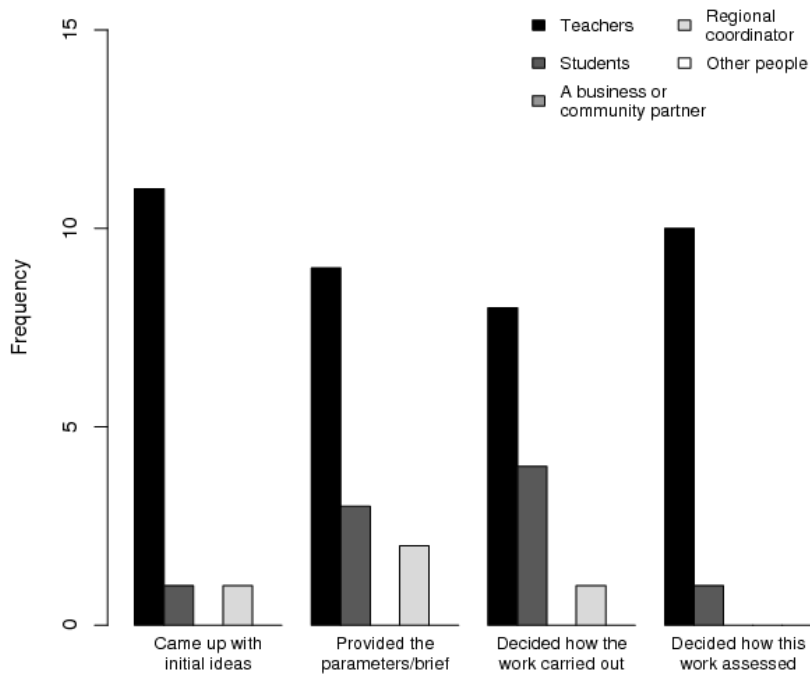**Figure 2 Who was involved in decision-making (Group 1, n=14)**

Figure 3 Who supported the student's work (Group 1, n=14)
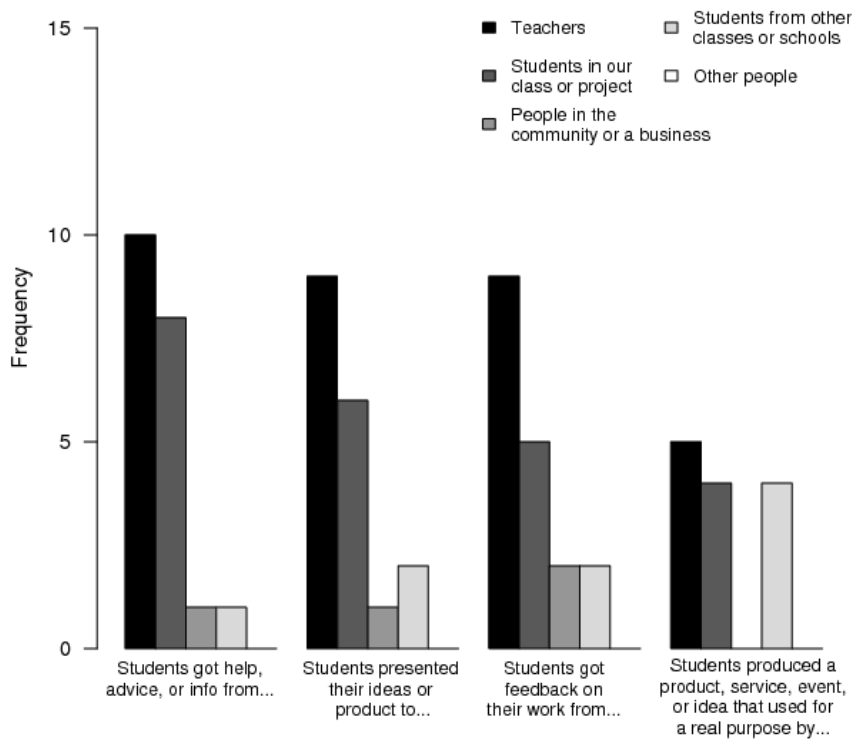
Group 2: Some partner involvement, but not as recipients of students' activities

There were 7 examples (10 percent of the sample) of activities in which teachers said that there was some involvement from business or community partners in students' learning, but it did not appear that students had developed a product, service, event, or idea that would be used to meet a real need or purpose in the school, in a business, or in the community. Six teachers or lead teachers described these activities (Table 5).

Table 5 **Descriptions of the E4E activities in group 2**

Subject(s)	Description
Enterprise studies, English, mathematics	Speakers from the community came to speak to students about their chosen careers, qualifications, pathways, experiences.
Language	Running small business/community organisations within class
Language	Students mixed with a community of German speakers, visited an exhibition to look at the impacts of German settlers, and were helped by the German speakers to complete an exercise in German language
Mathematics	Students designed a "pizza for profit". Students visited butcher and hotel, where they made pizzas and talked to the cooks and owners about their businesses, how they got to that point, and how much maths was involved in the work, etc.
Social science	Army personnel came to talk with students about New Zealand's peacekeeping role, share their own experience as a peacekeeper, and give students drills to complete and scenarios to experience and plan how they would react
Technology, English, mathematics	Creating an event for "pet day" fundraising

This group of activities shares some similarities with approaches 2) and 4) on the E4E typology discussed above:

• Business or community expert as teacher; and
• Creating real knowledge to meet a real need as a practice activity

These activities are also similar in some ways to those described in group 1 – the main difference being the greater degree of involvement of people from business or the community. There are a number of advantages associated with the E4E approaches described by the teachers in group 2. For example, as with group 1, students can find it more engaging and interesting when they are shown how their learning connects to a real context. Furthermore, engaging with people in the business or community who are experts in a particular area can provide motivation and inspiration, and help build connections between the school and the community. A disadvantage of this approach is that the business or community expert tends to take on the traditional teacher role, responsible for disseminating knowledge. Students are positioned as the recipients and may have

few opportunities to work with partners to build new knowledge. As with the examples in group 1, there is also the risk that, apart from the novelty factor of having a different person or people to learn from, this is "business as usual" in teaching and learning. Once again, the school or community may not benefit from students' work, and the students spend time and energy creating new knowledge for no purpose other than meeting their curriculum requirements and developing skills which they might use in the future. The challenge is to extend this approach one step further so that the potential of the new knowledge or product can be realised, and both the community and students can benefit.

Who made decisions, and who helped the students?

As with group 1, teachers in group 2 were the most common decision-makers about the students' activities and how they would be assessed (Figure 4). However, in about a third of the examples, a business or community partner or someone else contributed to shaping the students' activities. In just under half the examples, students in group 2 contributed significantly to the decisions about how their work was to be carried out, and fewer contributed to decisions about assessment of their work.

Figure 5 shows that students in group 2 were most likely to present their ideas to their teachers, and get help, advice, and feedback from their teachers, but many also got advice and feedback from or presented their ideas to someone from the business or community. Only about half of the activities described in group 2 activities resulted in something that would be used for a real purpose, and this was generally for the benefit of teachers and students, not people outside the school.

Figure 4   Who was involved in decision-making (Group 2, n=7)

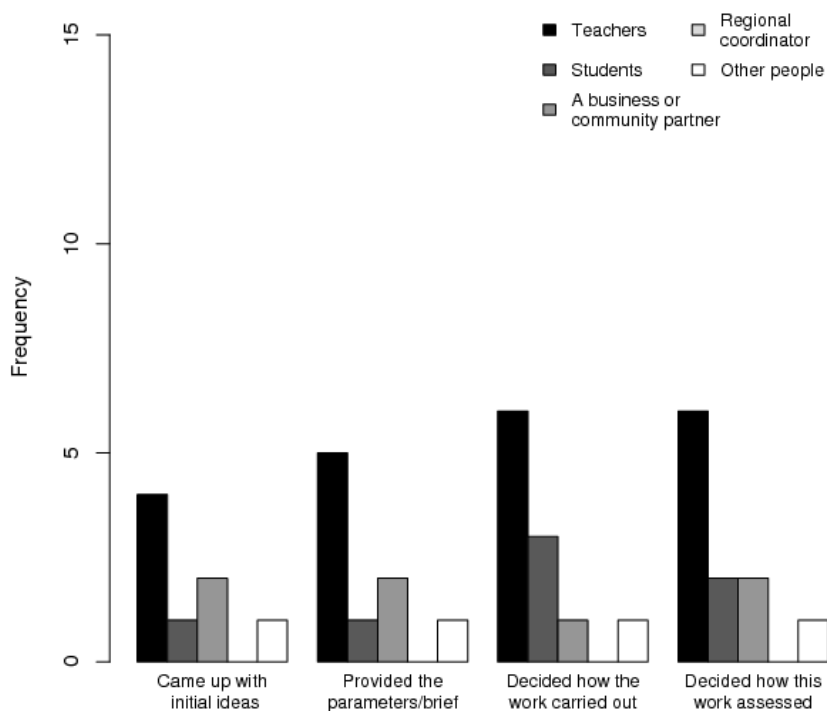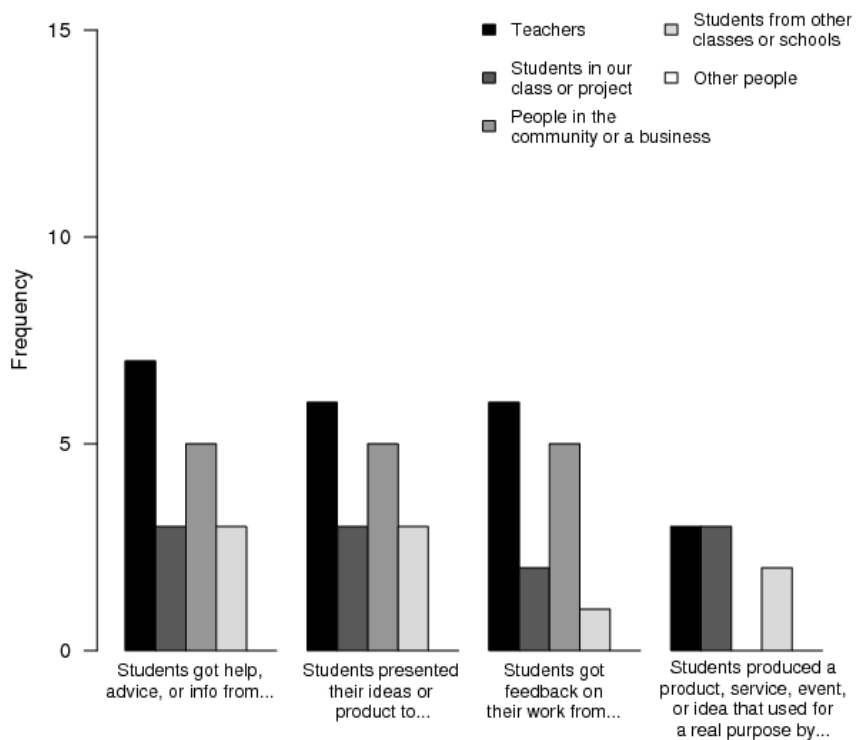**Figure 5   Who supported the student's work (Group 2, n=7)**

Group 3: Significant partner involvement - activities for a real purpose

In 38 examples (54 percent of the sample), students appeared to be engaged in an activity that yielded a product, idea, or service, that was going to be used by someone other than the teacher and the students themselves. Most often this was a business or community partner, but could sometimes be other students and staff in the school, or students and staff from other schools. Thirty-one teachers gave a written description of these activities (Table 6)

Table 6 **Description of the activities in group 3**

Subject(s)	Description
Accounting and economics	Carrying out a waste management survey for a waste exchange business, making a display for the business
Biotechnology, agriculture/horticulture	Students set up a business using horticultural skills to develop products to sell
Drama	Students produced a performance of "Alice in Wonderland", performing to primary school audiences. A local intermediate class came to watch and ask the drama students questions about the production process for their own unit of work on play-building.
Drama	Students worked with a museum to provide a performance based on the current educational display
Drama, enterprise, technology, social sciences, media studies	Students produced and performed political theatre at a local theatre
Enterprise studies	Developing and marketing a product, culminating in a product launch to which family and friends were invited
Enterprise studies	Community link with a company which provides indigenous New Zealand art. Students researched background descriptions for the work, using local library and stories from local kaumātua, drew their own version of images from the research, and planned an art exhibition.
Enterprise studies	Community challenge: students worked on a project to improve the school community. Students implemented paper recycling, improved school noticeboards, and sent old textbooks to schools in Samoa
Enterprise studies	Designing and making invitation cards for a networking meeting for an NGO
Enterprise studies	Formation of companies, from planning to wind-up, including product development and production
Enterprise studies	Liaising with the school library to scope and present a proposal for a new website. The winning team will develop the final product
Enterprise studies and technology	Students identified needs within the school and worked in groups to meet the need – for example painting the school wharenui
Enterprise studies, technology	Making and selling chocolates as a mini-enterprise
Enterprise studies, technology, art, English, mathematics	Starting a company and producing a clip to seal food packaging
Enterprise studies, technology, social sciences, PE and Health	1) Creating a healthy eating environment at school, bringing in guest speakers, bringing health sandwiches and filtered water into the school canteen

	2) Working with city council town planner and surveying people in the community about what they want in their town centre
Enterprise, technology, social sciences, English, mathematics	Preparing a marketing a food item for a fundraising project
Health and Physical Education	Increasing recycling and reducing litter around the school, support from a business who provided information and resources to the school to support composting and recycling
Horticulture	1) Students visited a hydroponic lettuce enterprise and one student was inspired to set one up in the school, working with two classmates. 2) Another student initiated a landscaping project to create a paved seating area in the school
Languages	Developing signs in other languages for tourists at the local supermarket
Not indicated	It will involve students growing produce for donation to local community food bank, senior citizens, and for sale to the local hotel (Still under development)
Social sciences	Designing an ecotourist resort and presenting proposal to New Zealand Trade and Enterprise
Technology	Developing signage for a local business warning the public of the dangerous exit that goes out of the rear of the store onto a roadway with no footpath. The hazard had been identified the previous year by a year 7-8 class project from a contributing school
Technology (2 examples described)	1) A media package for a firm 2) Landscape idea for local community
Technology	Redesigning a business logo for a retail shop, run as a competition with prize money, with client providing the brief, feedback, and prize money
Technology	Designing and producing a Christmas card for regional economic development agency
Technology	Designing and making Christmas decorations for a client
Technology	Designing and manufacturing hand/eye coordination toys/articles for a local kindergarten
Technology	Working with a retail business to design and promote the use of cloth bags rather than plastic
Technology	Students work with a parent (who is a chef), preparing and serving food to students (ordered an paid for by the client students) once a week , and catering for special community events
Technology and science	Implementing a school-wide recycling scheme, planting native trees and shrubs
Technology, social sciences	Surveying the community's opinions about the town centre and what kinds of services and activities they would like to have available

These activities share similarities with approaches 5) and 6) on the E4E typology discussed at the beginning of this section, namely:

- Teacher-directed work for a real purpose in the real world; and
- Student-led creation of new knowledge for a real purpose in the real world

One obvious feature of this group is the predominance of examples from enterprise studies and technology subjects. As noted earlier in this report (see Table 3), technology and enterprise studies were the most likely subjects to be taught by the teachers who responded to our survey, and it is not surprising that these subjects might be the ones in which E4E is most often occurring in schools. Both technology and enterprise studies, by nature, have the capacity to lend themselves to learning activities in which students are working with someone other than their teacher to produce something for a real purpose or real client. If the way learning activities are designed, the kind of learning that is expected, and the ways students' learning is assessed in these subjects *already* fit well with an E4E philosophy, technology and enterprise studies teachers may find it significantly easier to integrate E4E into their practices. However, it is encouraging to find some examples from several other curriculum areas (such as drama, social sciences, languages, and health and physical education) in group 3. It is also interesting that some teachers identified their examples as involving several curriculum areas.

Who made decisions, and who helped the students?

As Figure 6 shows, even in group 3, teachers were still the most common decision-makers about the activities the students carried out, and how their work would be assessed. However, students were reported almost as often as teachers to have made major contribution to decisions about how the work would be carried out. As Figure 7 shows, it was quite common for students to be getting help, advice, feedback, and presenting their work to people in business or the community (as well as from their teachers and their fellow students). People from businesses or the community were also the most likely group to use a product, idea, or service produced by the students as a result of their E4E activities.

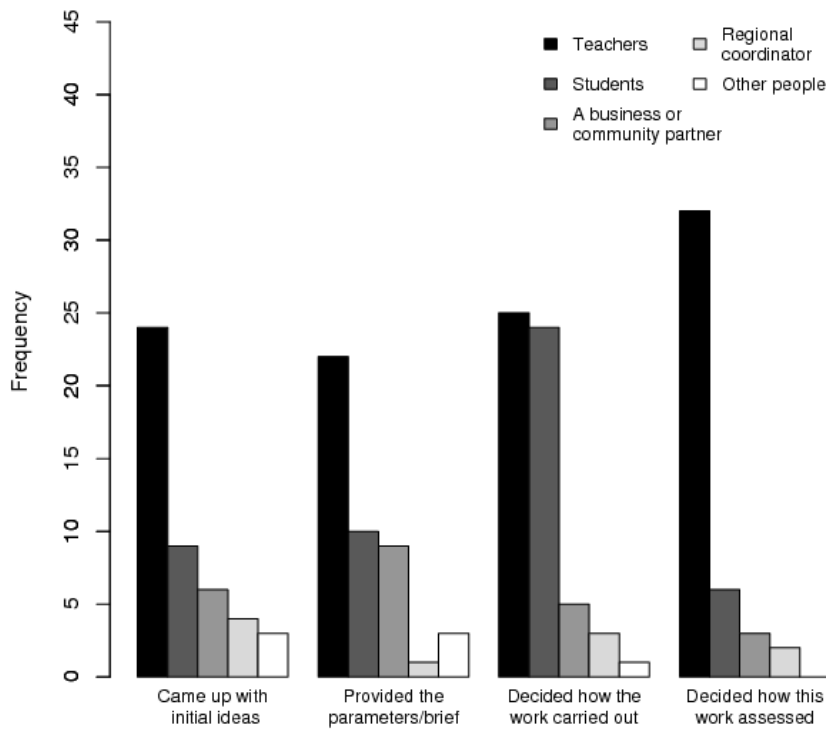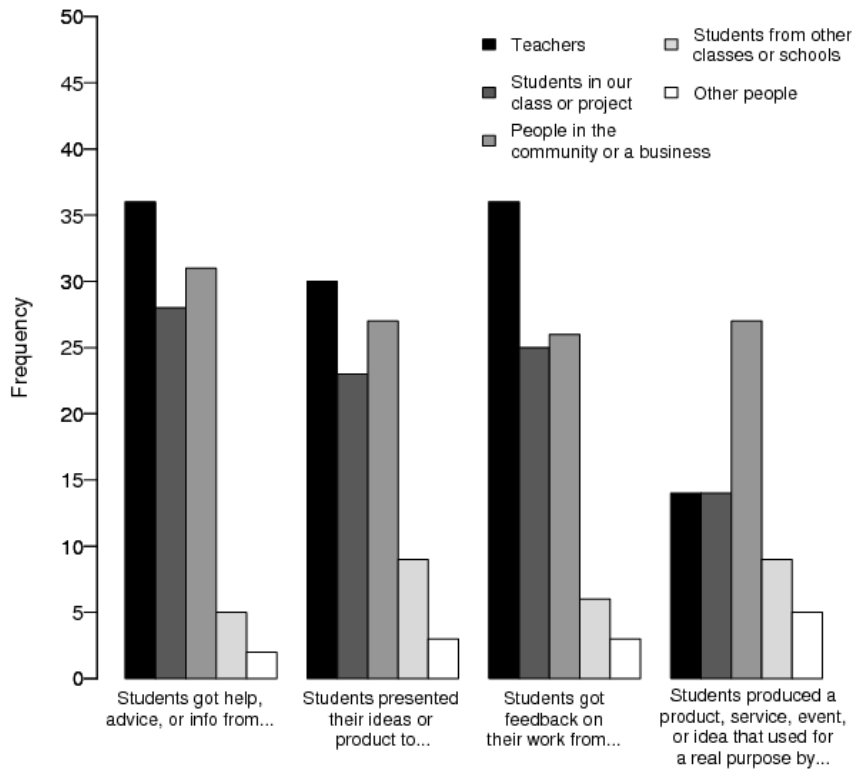**Figure 6   Who was involved in decision-making (Group 3, n=38)**

Figure 7   Who supported the students' activities (Group 3, n=38)

Comments on the E4E examples described by teachers

The preceding analysis of E4E activities described by teachers suggests that the concept of "education for enterprise" is being understood and expressed in a variety of ways in schools across the four clusters. By clustering the examples as we have done above, particularly regarding the degree to which they involve partners from the business and community, and the degree to which they enable students to contribute new knowledge to meet an authentic school or community need, it is possible to infer some of the potential advantages and disadvantages of these different approaches. However, we must be aware of the limitations of what this analysis can tell us. For example, we cannot know exactly how engaged and motivated students were in each of the activities, or how much they learned, or whether they have become better learners as a result[4].

One interesting pattern from the examples discussed above was how consistently teachers across all three groups tended to be the main decision-makers about the activities the students undertook, and how their work was to be carried out and assessed. While it is not unreasonable for teachers to contribute in large measure to such decisions, it would be encouraging to have found that students were more often equal partners in making the decisions that shaped their learning. This might be an area for teachers involved in E4E to consider as they seek to build on their practices in 2008 and beyond. That said, student survey data gathered in 2007 did suggest that students believed they had greater input into decision-making in their E4E classes than in other classes in general[5].

A general challenge seems to be for schools to find ways to integrate E4E more widely across the curriculum. While it is easy to see how certain subjects (like enterprise studies and technology) might lend themselves to an E4E approach, the survey has demonstrated examples from other curriculum areas where teachers have found ways to provide more enterprising and/or authentic learning opportunities for students. Collaborative cross-curricular planning between teachers across different subjects may be one way to identify situations and strategies through which students can learn in more enterprising ways across the curriculum.

Student learning opportunities and ways of working

We asked teachers to indicate how students worked on their E4E activities by ticking a checklist of statements shown in Table 7. As a general comparison, students' responses to this checklist are

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[4] Although we surveyed students at the end of 2007, for a variety of practical and ethical reasons, it is not possible to match up student data to any particular teacher's data.

[5] In the end-of-year survey of 506 E4E students, 72 percent said that students mostly decided, or worked together with a teacher to decide, how they should do their project. In an earlier survey of general teaching and learning completed by 1682 students, only 18 percent of students said this is what usually happened in their regular teaching and learning.

also shown[6]. Students and teachers' responses were fairly similar for most of the statements. In both cases, around three quarters said that students worked in groups. Teachers were more likely than students to say that E4E involved skills from more than one curriculum area, and that students worked on their projects outside school hours, or outside the school.

Table 7 **How students worked on their E4E activities**

	% teachers and lead teachers (n=71)	% E4E students (n=506)
Students worked in groups	76	75
Students used skills from more than one curriculum area	76	61
Students worked in different spaces in the school	73	64
Students had an extended period of time to work on one project in depth	68	68
Students took different roles/did different jobs within a group or team	65	69
Students were given responsibility for deciding how they used their time each day	62	64
Students took time to work on the project outside class time/after school hours	62	44
Students worked outside the school	50	42
Students worked with students from other year levels in our school	28	25

Opportunities to develop enterprising attributes

We asked teachers to rate how many opportunities students had to develop various "enterprising attributes" during their E4E activities. As Figure 8 shows, most teachers said that students had some or many opportunities to develop all of the attributes. Fifty percent or more teachers said students had *many* opportunities to do the following:

- Coming up with creative ideas
- Working with others and in teams
- Planning and organising a project
- Using initiative, drive, and energy
- Explaining their ideas and information to others, and
- Listening to ideas and information from others

There were just a few areas in which at least 30 percent of teachers said students had few or no specific learning opportunities. These were:

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[6] Please note that the ratio of students to teachers is variable across the schools, and that in some schools we received student surveys but no teacher surveys, and vice versa

- Developing business knowledge
- Discussing the relevance of their learning to their futures
- Presenting their ideas in different ways or modes
- Thinking about their personal learning processes

For comparison, Figure 8 shows how the 506 students surveyed at the end of 2007 rated their improvement in each of these attributes. It is difficult to identify a specific relationship between the teachers' and students' data, other than to notice that the overall shape of the graphs is reasonably similar. In most cases, teachers were more likely to say that students had some or many opportunities to develop an attributes, while students were likely to say they had got a little bit better or stayed the same in terms of their ability to demonstrate this same attribute.

Figure 8 Opportunities for students' development of enterprising attributes
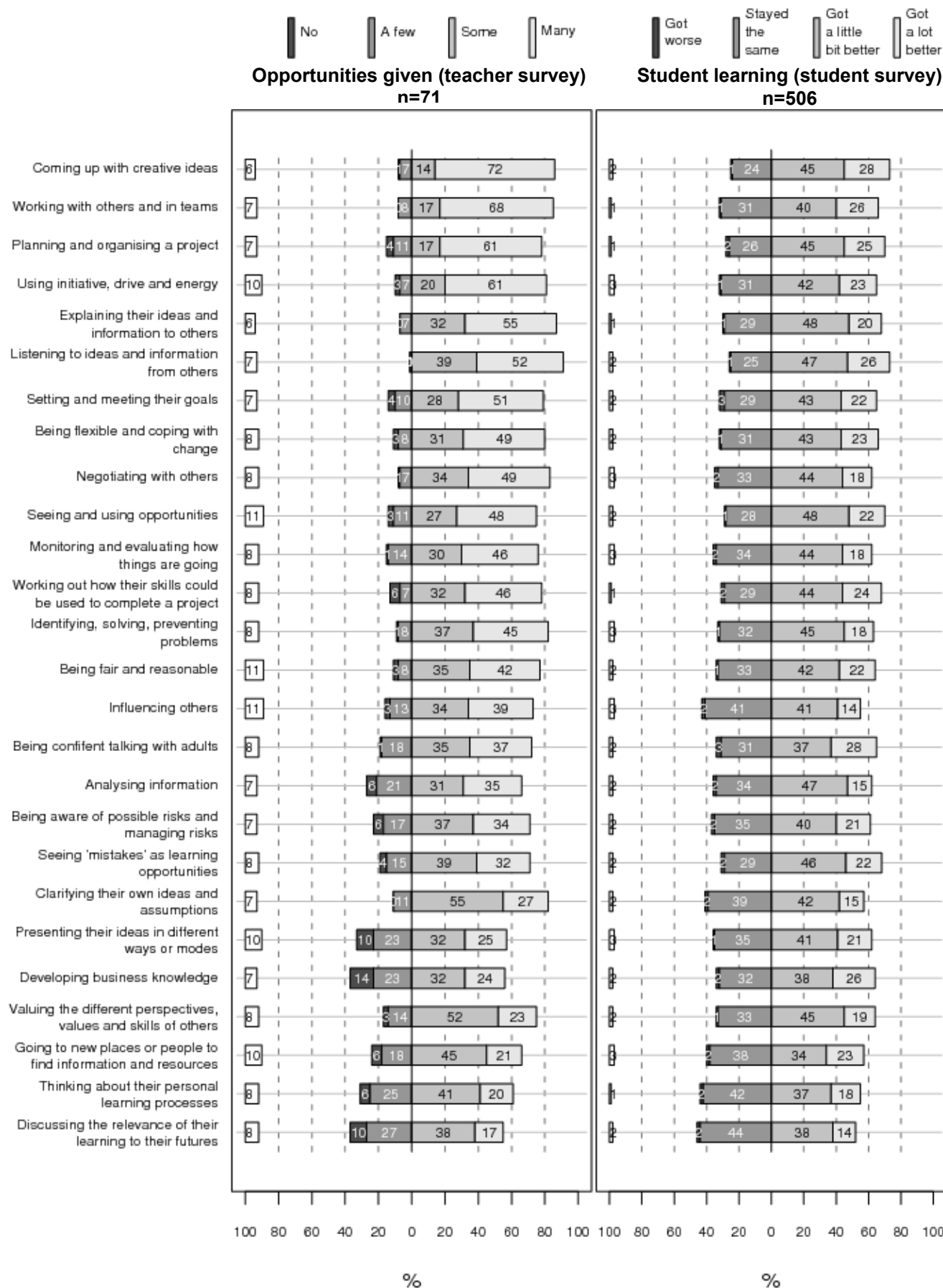
Assessment of E4E

As Table 8 shows, the two most common assessment methods teachers used during students' E4E learning activities were their own observation or anecdotal records, or student self-assessment. Some teachers used feedback from community or business partners, or student peer assessment. These methods were all more common than formalised assessment approaches. This is likely to be because many of the students were in Years 9 or 10, and thus unlikely to be assessed using unit standards or achievement standards designed mostly for Years 11-13.

Table 8 **Forms of assessment used by teachers during the E4E activities**

Assessment methods used	% teachers/lead teachers (n=71)
Teacher observation/anecdotal records	72
Student self assessment	63
Feedback from business/community partners	42
Student peer assessment	39
Teacher developed rubrics/standards-based assessment	28
Achievement standards	23
Unit standards	20
Other	11

We asked teachers to indicate which (if any) of the enterprising skills and attributes listed in Figure 8 (see page 25) were assessed. As Table 9 shows, the three most commonly assessed skills/attributes were: working with others and in teams, planning and organising a project, and coming up with creative ideas.

Table 9 **Assessment of enterprising attributes – most frequently assessed**

	% of teachers/lead teachers who assessed this (n=71)
Working with others and in teams	35
Planning and organising a project	28
Coming up with creative ideas	25
Explaining their ideas and information to others	24
Analysing information	24
Identifying, solving, and preventing problems	24
Setting and meeting their goals	18
Monitoring and evaluating how things are going	18
Being aware of possible risks and managing risks	15
Working out how their skills could be used to complete a project	15
Presenting their ideas in different ways or "modes"	15

Looking at the less frequently assessed enterprising attributes, between 10 and 13 percent of teachers said they assessed the following:

- Being confident talking with adults
- Negotiating with others
- Thinking about their personal learning processes
- Going to new places or people to find information and resources
- Seeing and using opportunities
- Using initiative, drive, and energy
- Valuing the different perspectives, values, and skills of others
- Clarifying their own ideas and assumptions

Less than ten percent assessed these enterprising skills and attributes:

- Listening to ideas and information from others
- Being flexible and coping with change
- Seeing "mistakes" as learning opportunities
- Developing business knowledge
- Being fair and reasonable
- Influencing others
- Discussing the relevance of their learning to their futures

The role of the teacher in E4E

We asked the teachers and lead teachers to comment on their role during the E4E learning activities, and whether this differed in any way from the way they usually worked with students. Table 10 shows the most common themes in the teachers' responses.

Table 10 **Comments about teachers' role during the E4E unit/activity**

	Percentage teachers and lead teachers (n=71)
Facilitator, guide, coach, adviser, mentor	60
Same as usual teaching style	17
Liaison with business or community partners	14
Directing and planning students' work	8
Assessment	6
Other	20

Sixty percent of teachers described their role as being one of a coach, adviser, mentor, or facilitator. In many cases teachers described this as being different to their regular ways of working, for example:

> Students led, teachers there to facilitate, give ideas/feedback when appropriate. My approach changed as it was less teacher directed. (Teacher)

> Very different! More a "supporter" than a "teacher". (Teacher)

Other teachers said that this was their normal way of working with students, for example:

> I was the facilitator and at times learning more than the students. I believe this is to be close to my usual style of teaching except there has been more visitors/visits. (lead teacher)

> Providing them with opportunities, guiding them through design & making process. Usually work this way with senior students. Technology is a perfect process for E4E. Having a client in the community for students to work with, instead of friends/family is ideal. (teacher)

Fourteen percent of teachers mentioned their role in terms of liaison with the business or community partner, for example, setting up meetings, organising transport, and interpreting the client's needs. For example:

> Understand what the stakeholder required, and guide students without influencing them too much (fine balancing act). Communicate with stakeholder to gain access to him for students. In general act as an intermediary - so the stakeholder has confidence in who he is dealing with at the school. Generate the idea that students are not working for me but for the stakeholder. (Teacher)

A small number of comments suggested that teachers still saw their role as planning and directing the students' work:

> Because I had to give everyone a job or responsibility, rather than just the usual one or two, I had to take a risk and give clear parameters to students. (teacher)

A few teachers mentioned that their role still included assessing the students' work, either during the project, or at the end when students had completed their activities.

Challenges of an E4E teaching approach

We asked teachers and lead teachers to identify which of the challenges listed in Table 9 they encountered in their E4E teaching approach. The two biggest challenges were related to the logistics of working within conventional school structures: working within the constraints of the school timetable (61 percent), and finding times when students and business/community partners were both free to work together (54 percent). Managing and supporting students to carry out their activities was a slightly lesser challenge, although over half found it a challenge to cater for students who struggled with working independently. Among the *least* challenging aspects of teachers' role were those relating to meeting curriculum and assessment needs, and working within the constraints of subject and discipline boundaries. This suggests, as one might expect, that teachers' planning in E4E is still primarily based *within* conventional curriculum, timetabling, and assessment structures, rather than attempting to transform or transgress these.

Other than those listed in Table 11 (see next page), we asked teachers to describe any additional challenges they faced. These included:

- Physical distance from suitable business or community partners (especially in isolated areas)
- Access to resources and technology (such as video cameras, phones, fax machines, and the Internet) or appropriate spaces to work in
- Juggling many activities all at once, coping with the unexpected, and keeping all students engaged
- Lack of support/enthusiasm from other staff
- Running out of time to complete the projects

Some additional comments included:

> It was a challenge for to realise that I need to take a lot of time and let students be really independent. I also had to be prepared for it to be a huge flop!

> Only a small group in both cases - landscaping and hydroponics wanted to do this group enterprise. I just made space in our class time for them to pursue their interests. They still completed other assessed tasks in class time - but were much more motivated so completed these tasks faster and did them well. Students were not on the "how many credits" mill but just did what they were interested in.

Not a challenge but interesting. Whose intellectual property were the logos? Because prize money was involved the stakeholder drew up a contract of competition rules. I liked this - a safeguard for them and the class.

For this unit we used peer teaching. A challenge was to organise my peer tutors to teach the other classes. One issue - organisation of the rest of my class.

Table 11 **Challenges of an enterprising teaching approach**

Challenges	% teachers/lead teachers (n=71)
Working within the constraints of the school timetable	61
Finding times when students and business/community partners were both free to work together	54
Catering for students who struggle with the motivation or skills needed to work independently	52
Ensuring students completed work within the expected timeframes of partners	44
Letting students find their own way and make their own mistakes	37
Setting up working relationships with business/community partners	31
Catering for students who struggle with the skills needed to work successfully as part of a group	30
Ensuring students gained credits, achievement standards, or unit standards	27
Working within the constraints of subject/discipline boundaries	25
Ensuring business/community partners understood the work that students of this age are capable of	25
Satisfying curriculum needs	24
Maintaining/monitoring relationships with business/community partners	17

Relationships with partner organisations

As mentioned earlier (see page 8), 76 percent of the E4E activities described by teachers and lead teachers involved a partner from business or the community. Of these examples, the relationships with the partner organisations/individuals were most often established by the teacher themselves (39 percent), although 24 percent said that the regional coordinator had established the working relationship (Table 12).

Table 12 **How relationship with the partner organisation was established**

	Percentage of examples in which a partner was involved (n= 54)
I set up the working relationship	39
The regional co-ordinator set up the working relationship	24
The relationship was already established with the school	22
Students established the relationship	9
Other	6

Benefits of the partnerships

Teachers were asked to comment on the benefits of the working relationship with their partner organisation. (Only teachers whose E4E projects involved an external partner responded to this question). As Figure 9 shows (see over the page), almost all teachers felt that students were the greatest beneficiaries of the partnership (with 55 percent thinking students had experienced strong benefits), followed by teachers, and the community or business partners. Over half also thought that the wider community/region had benefitted from the working relationship between the school and the business or community partner.

Continuing the working relationship

Fifty-nine percent of teachers/lead teachers whose E4E activities had involved a business/community partner intended to continue the working relationship in 2008. Six percent said they did not intend to continue the relationship, and the rest were not sure yet.

Figure 9   Benefits of working relationships with business/community partners
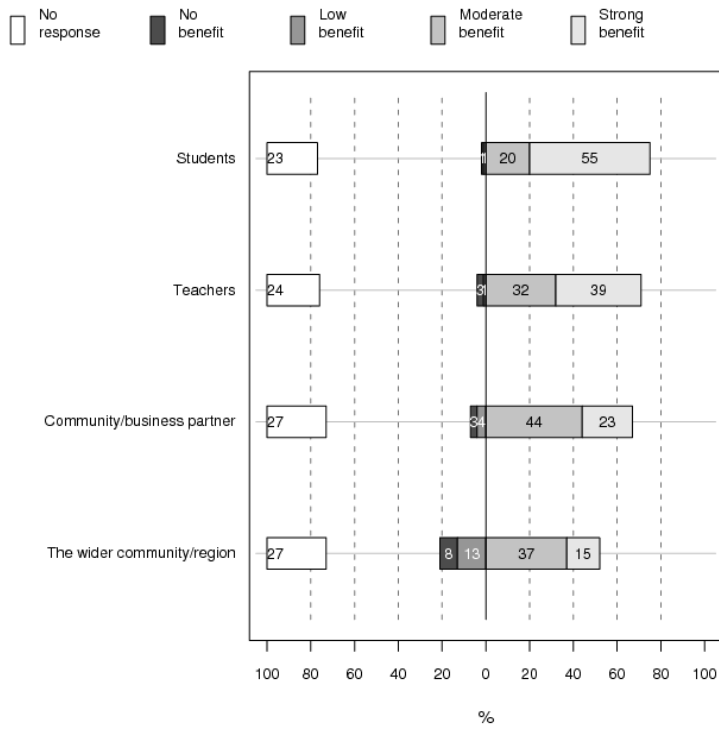
Extent of, and support for, E4E practice in schools

The previous sections have examined the nature of specific E4E activities undertaken by lead teachers and other teachers in the 22 schools who returned surveys. That data has given us an insight in to the variety of different ways that teachers and students across different classes are experiencing E4E. However, at this point we have not identified whether the teachers who returned surveys were "islands of innovation" within their own schools, or whether they were representative of a growing E4E culture throughout their school. This section looks at the *extent* of E4E practice – and the degree to which it is embedded in school culture – across the surveyed schools. Some of the data in this section comes from questions which were only asked of lead teachers (n=20), as they were considered most likely to have an overall picture of E4E practice in their school.

Extent of E4E practice

Figure 10 suggests that the extent and depth of E4E practice varies between schools. Almost all lead teachers (19 out of 20) agreed or strongly agreed that students at their school are engaged in authentic real-world learning activities in the school or community, and most agreed or strongly agreed that the school has established strong relationships with business or community partners to support E4E. Slightly fewer lead teachers (16 out of 20) said students in a range of year levels are involved in enterprising learning, although 7 lead teachers strongly agreed that this happened at their school. However only 4 lead teachers agreed or strongly agreed that *all or most* students in the school were involved in enterprising learning. While 14 lead teachers said enterprising approaches were occurring across the curriculum, only 2 strongly agreed that this was the case.

Staff attitudes towards E4E

Figure 11 indicates the profile of E4E within the surveyed schools. This data suggests that the surveyed teachers' enthusiasm and interest in E4E may be greater than that of the school staff as a whole. Almost all teachers and lead teachers agreed or strongly agreed that they were enthusiastic about making E4E happen at their school (96 percent), and that they had a strong understanding of the principles of E4E (88 percent). Eighty-four percent also agreed that E4E is more rewarding for students than "conventional" approaches, although 40 percent found E4E harder to plan for. However, over half (59 percent) thought that their school still had a long way to go in developing an enterprising culture, and less than half (42 percent) said E4E was often discussed in the staffroom or in staff meetings.

Figure 10 Extent of enterprising learning, according to lead teachers (n=20)
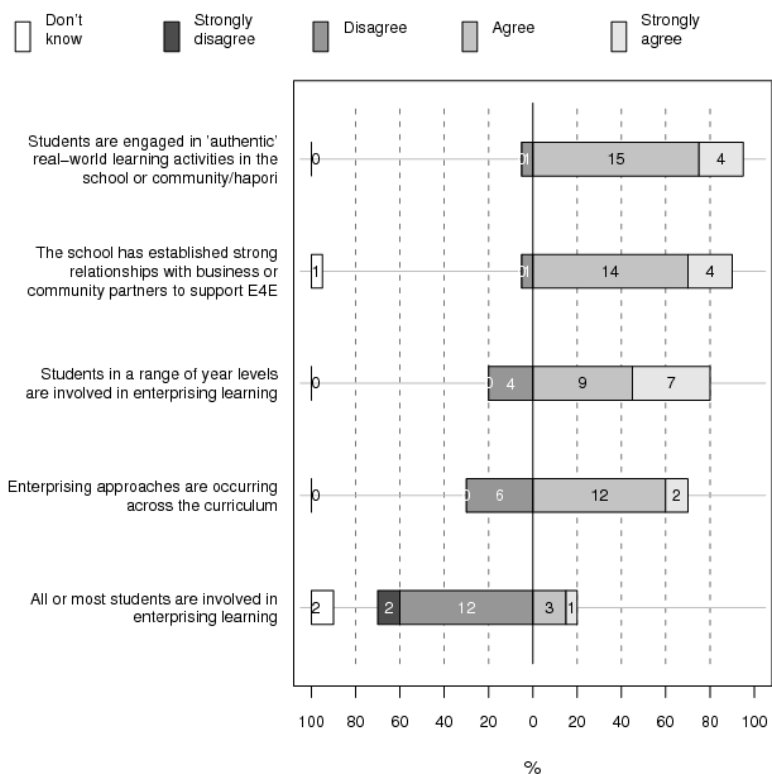
Figure 11 Teacher/lead teachers' perceptions of profile of E4E in school (n=71)
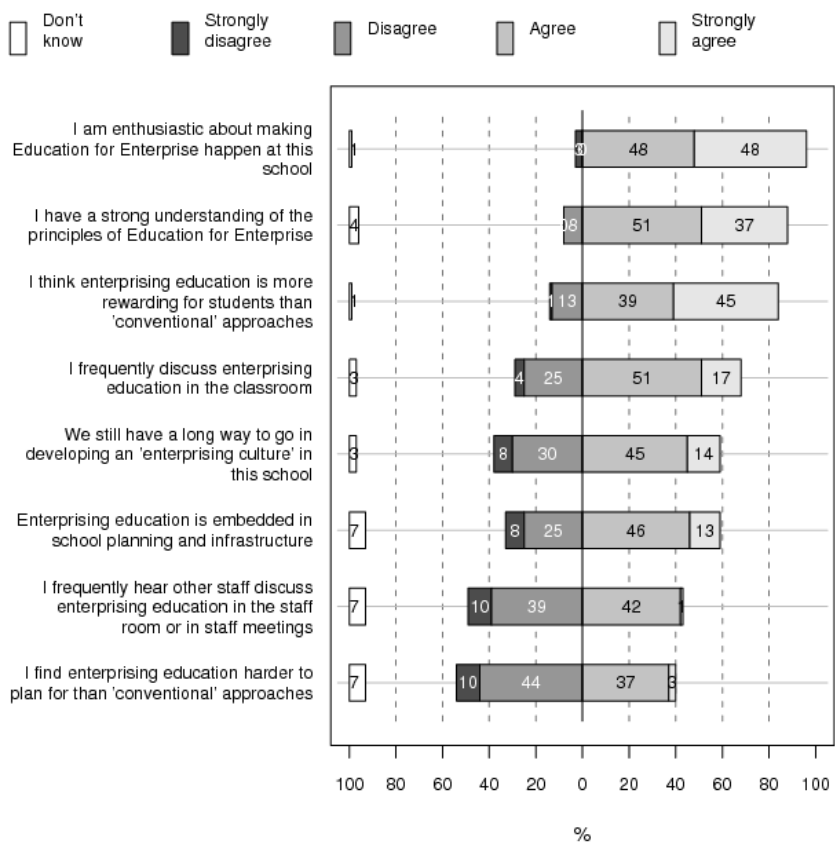
Inclusion of E4E in school documentation

Figure 12 shows the profile of E4E in school documentation as reported by lead teachers. All lead teachers said that E4E was reported in school newsletters. Around half reported the inclusion of E4E in policy documents, teachers' planning, and school-level curriculum plans. However, it was uncommon for E4E to explicitly appear in teacher appraisal documentation, or in reporting of student achievement and learning to parents (in each case only 3 lead teachers indicated that this was true in their school).

Figure 12 Inclusion of E4E in school documents as reported by lead teachers (n=20)
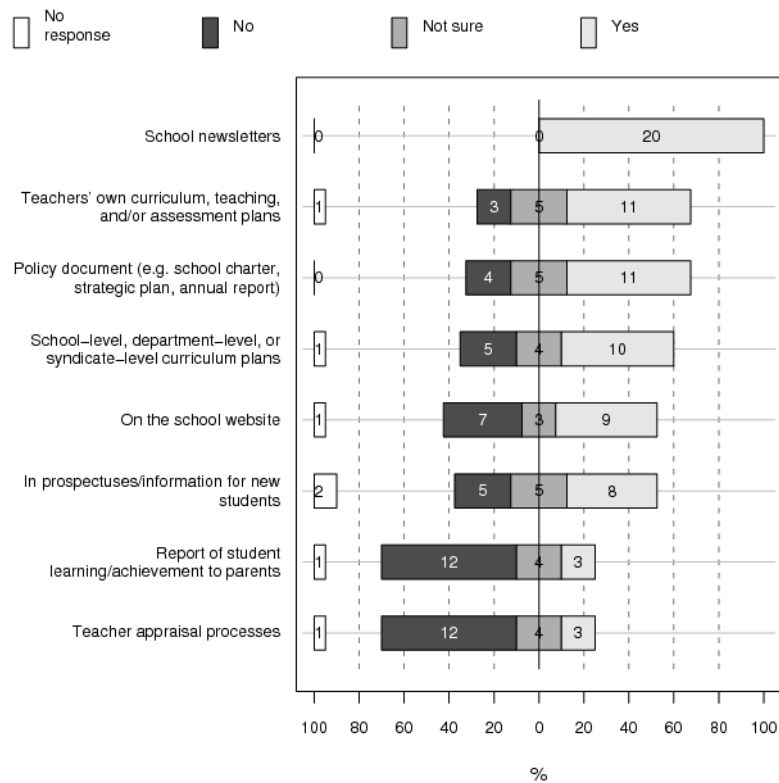
Support for lead teachers and teachers engaged in E4E

Sixty-two percent of teachers said they felt very well supported or quite well supported to develop E4E by the lead teacher/enterprise coordinator in their school. Table 13 shows teachers' and lead teachers' combined responses about who else they feel supported by. Most teachers and lead teachers (89 percent) felt supported by their principal, and over three-quarters felt supported by

the regional E4E coordinator. Many teachers (62 percent) also felt well supported by an E4E professional development provider, although almost a quarter had had no experience of this[7].

More than 40 percent of teachers and lead teachers said they did not have a direct experience of support from national-level stakeholders, such as the national E4E coordinator, the Ministry of Education and New Zealand Trade and Enterprise, or the information on the TKI E4E website. It is not surprising that teachers might be more likely to directly experience school-level support than national-level support in the development of their own E4E approaches. However, in most cases teachers were just as likely to say they *did* feel well supported by these groups, as to say they had not experienced this type of support. The least common source of support experienced by teachers at this stage appears to be from teachers in other schools in their clusters.

Table 13 **Whom teachers/ lead teachers feel supported by (n=71)**

	% teachers and lead teachers		
	Supports me very well or quite well	**Does not support me well, or does not support me at all**	**No experience of this**
Principal	89	7	4
E4E regional coordinator	77	8	14
E4E professional development provider	62	10	24
Other teachers in E4E cell or group	54	11	14
Information on TKI E4E website	42	11	42
E4E national coordinator	41	13	41
New Zealand Trade and Enterprise	39	14	44
Ministry of Education	37	20	42
Teachers from other schools in the cluster	32	35	31

An open question invited teachers and lead teachers to say who else they felt supported by in developing E4E approaches. Twenty-eight individuals wrote a response. The people they most commonly identified as supporting them in E4E were: their business and community partners (13 responses), other staff in their school, particular heads of department and other E4E teachers (8 responses), and the students themselves (4 responses). One person said that parents have been supportive "once they understand E4E", and another noted that cluster meetings and E4E group discussions had been particularly helpful.

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[7] In 2008, each regional cluster will have an E4E professional development provider. At least one cluster also had such a person in 2007.

Further support that would help

Fifty-nine percent of respondents commented on what kinds of further support they felt would help them to continue to develop and use E4E approaches. Of these, the most common ideas related to having more professional learning opportunities for teachers (60 percent of comments). Teachers thought this could happen both within their schools, and with teachers from other schools, as illustrated in these suggestions:

> How [E4E] links to new curriculum - examples to support communicating with other teachers.

> Cluster groups of teachers in my area of the curriculum discussing ways we can incorporate E4E-developing units of work together.

> Visiting other schools with established E4E culture, meeting with teachers (lead) of above.

> A regular staff meeting. Time slot to share ideas and disseminate information. Time at Teacher Only Days to work with all staff on PD.

> 1. E4E support on site by advisors so that all teachers can see the big picture. 2. To create E4E PD in school and be offered by regional co-ordinator.

> Experience seeing E4E in schools where it is working.

Other common types of suggestions were support to increase, strengthen, or expand links with community and business partner organisations, for example:

> More community people to help students/come up with projects for students.

Some staff also requested more time and funding to facilitate their E4E planning, and to enable them to make these links with outside people and agencies. One lead teacher commented that the support from their principal, the regional E4E coordinator, and other staff in the school had been "fantastic" and would like to see this continue. Another wanted to see changes to NCEA assessment that would encourage E4E approaches. Some additional comments include:

> a new way of planning to incorporate student voice and choice into some planning format so that units are directed by students' interests and teachers don't feel that learning has to be planned and sequenced without taking into account students' ideas.

> Achievement standards for enterprise education.

> People who are doers not box tickers would be helpful.

Roles and priorities of E4E lead teachers

The E4E regional cluster model presumes that all or most schools will have at least one teacher with a special role or responsibility for supporting the development of E4E in their school. This teacher is commonly known as the E4E lead teacher, or E4E/enterprise coordinator.

The role of the lead teacher

Table 14 shows the main aspects of the lead teacher's role. At the top of this list are: making E4E more visible in the school, and providing a link between the school and the regional E4E coordinator. Many lead teachers also said that providing leadership, day-today help, and modelling E4E practice for other teachers within their school was also a big part of their role.

Table 14 **Aspects of the lead teacher's role (n=20)**

	Number of Lead Teachers		
	Major part of my role	Minor part of my role	No part of my role
Making E4E more visible in my school	17	3	-
Providing a link between the school and regional E4E coordinator	16	4	-
Acting as a "go-to" person for teachers implementing E4E approaches	14	6	-
Providing intellectual leadership and inspiration about E4E	14	5	1
Using my own class to model E4E approaches	13	4	3
Setting up new business/community partners for teachers	8	8	4
Developing school documents around E4E	7	9	4
Reviewing the new curriculum/key competencies fit in relation to E4E	7	9	3
Managing E4E budget	5	9	6

E4E lead teachers' priorities for the next two years

Figure 13 (next page) shows lead teachers' priorities for the development of E4E in their school for the next two years. High priority was given to the following activities, which could be described collectively as big-picture, within-school actions[8]:

- getting more staff interested and involved in E4E
- linking E4E to the incoming NZ curriculum (including the key competencies)
- building collaboration between teachers in different curriculum areas within the school
- building new relationships with new business and community partners
- strengthening relationships with existing business and community partners to support the school's E4E activities and approaches
- strengthening or expanding the role of the school's enterprise cell or group

Lead teachers placed a slightly lesser priority on other within-school actions such as:

- Sourcing and organising staff professional development related to E4E
- Developing the school's individual approach and common language for E4E
- Strengthening the role of the enterprise coordinator or E4E lead teacher

Activities involving other schools were likely to be only moderate priorities, such as:

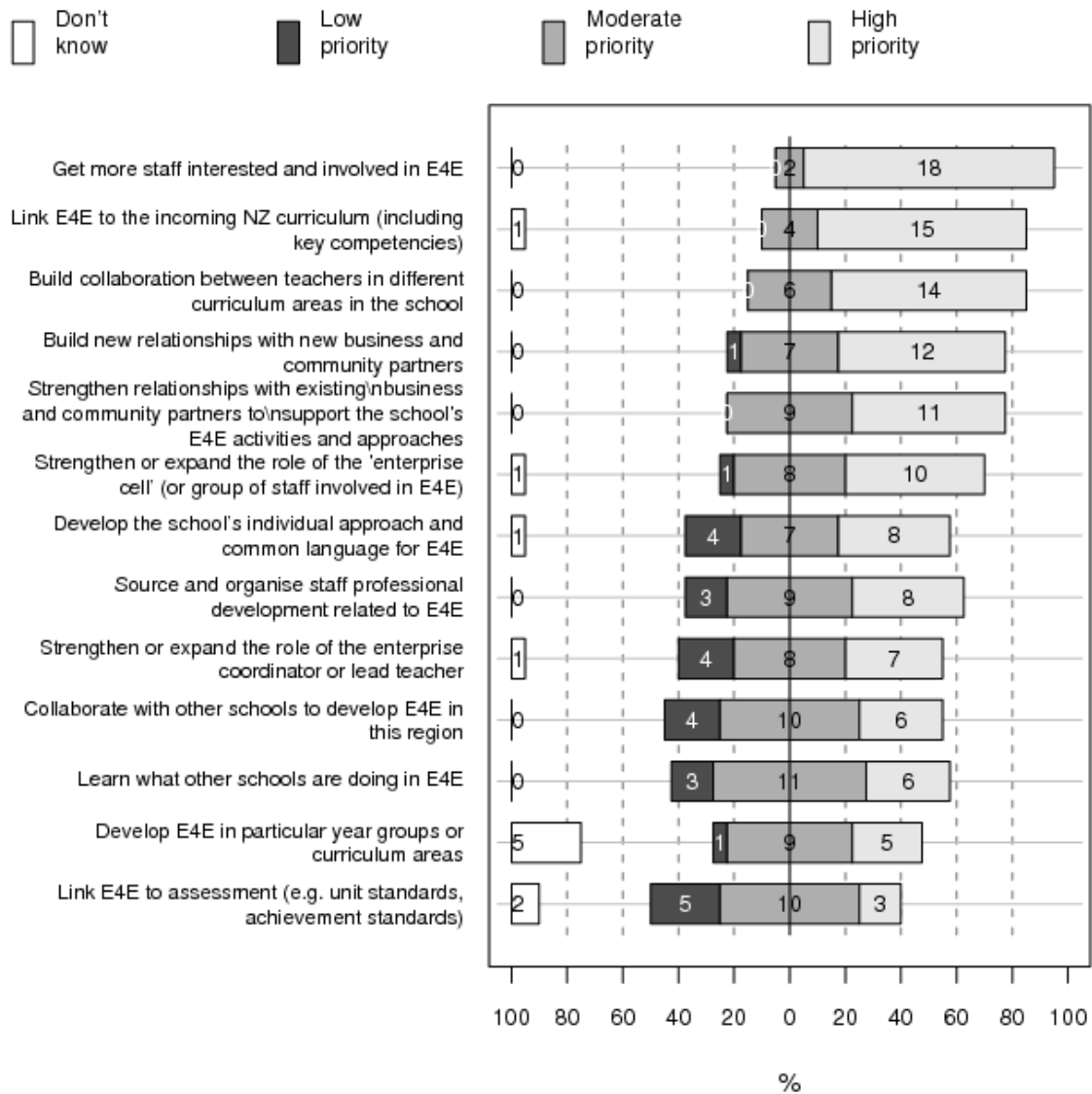- Learning what other schools are doing in E4E
- Collaborating with other schools to develop E4E in this region

The lowest-ranked priorities were the very specific activities of:

- Developing E4E in particular year groups or curriculum areas
- Linking E4E to assessment (e.g. unit standards, achievement standards)

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[8] A survey of E4E principals earlier in 2007 indicated a similar list of highest priorities.

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Figure 13 Lead teachers' priorities for the next two years (n=20)

Legend:
- Don't know
- Low priority
- Moderate priority
- High priority

Priority	Don't know	Low	Moderate	High
Get more staff interested and involved in E4E	0		2	18
Link E4E to the incoming NZ curriculum (including key competencies)	1	0	4	15
Build collaboration between teachers in different curriculum areas in the school	0	0	6	14
Build new relationships with new business and community partners	0	1	7	12
Strengthen relationships with existing\nbusiness and community partners to\nsupport the school's E4E activities and approaches	0	0	9	11
Strengthen or expand the role of the 'enterprise cell' (or group of staff involved in E4E)	1	1	8	10
Develop the school's individual approach and common language for E4E	1	4	7	8
Source and organise staff professional development related to E4E	0	3	9	8
Strengthen or expand the role of the enterprise coordinator or lead teacher	1	4	8	7
Collaborate with other schools to develop E4E in this region	0	4	10	6
Learn what other schools are doing in E4E	0	3	11	6
Develop E4E in particular year groups or curriculum areas	5	1	9	5
Link E4E to assessment (e.g. unit standards, achievement standards)	2	5	10	3

%

Discussion questions for E4E schools and regional clusters

The following are some questions, based on the data in this report, which E4E schools and regional clusters could discuss.

The nature of E4E learning activities

- What do you think about the way that the different E4E examples have been categorised in this report (see pages 11-22)?
- Where do you think your own E4E activities would fit within these groupings?
- Were you surprised that teachers were often the main person making key decisions about students' learning activities?
- Were you surprised that students often did not appear to play a major role in making decisions about their learning activities, or the assessment of their learning?
- How could you make more room for student leadership and decision-making in E4E in your school or classroom?
- How can schools move from E4E in isolated one-off projects, to E4E approaches across the curriculum, and across year levels in the school?
- How could more curriculum areas become engaged in E4E?
- Could you establish cross-curricular teacher groups to plan cross-curricular E4E learning opportunities in your school/cluster?

The role of the teacher in E4E

- Teachers commonly described themselves as more like a mentor, guide, or coach during E4E learning. Is this how you see yourself when you are teaching in an E4E context?
- Does the idea of teacher as a mentor/facilitator fit with the idea of increasing student leadership or co-leadership in decision-making about the learning activities?
- How could schools begin to address the challenges identified by teachers as inhibiting E4E? (e.g.. school timetable constraints, and needing to support students over longer periods of sustained activities in a complex authentic learning contexts)
- What additional challenges might schools face as they progress even further with E4E development? How might these be addressed - by good planning, or imaginative/creative thinking?
- The most common form of additional support teachers wanted was more opportunities for teacher professional learning/professional development. This included a desire for more time to think and talk together as a staff, and more opportunities to learn from other teachers' and

schools' approaches to E4E. What can your school do to support teacher professional learning, discussion, and collaboration in E4E in 2008-2009?

Taking E4E further: Your visions

- What would a truly enterprising student look like?
- What would enterprising teachers look like?
- What would an enterprising school look like?
- What would an enterprising community look like?
- What would a mutually beneficial partnership between schools and business/community partners look like?
- How can E4E development in your school/cluster develop to reflect the unique needs and nature of your community?
- What are your personal aims for E4E in 2008-9?
- What are your school's aims?
- What are the aims for your cluster?
- How can schools ensure that E4E is not just a "flash in the pan" or that teaching and learning does not revert to "business as usual" for students?