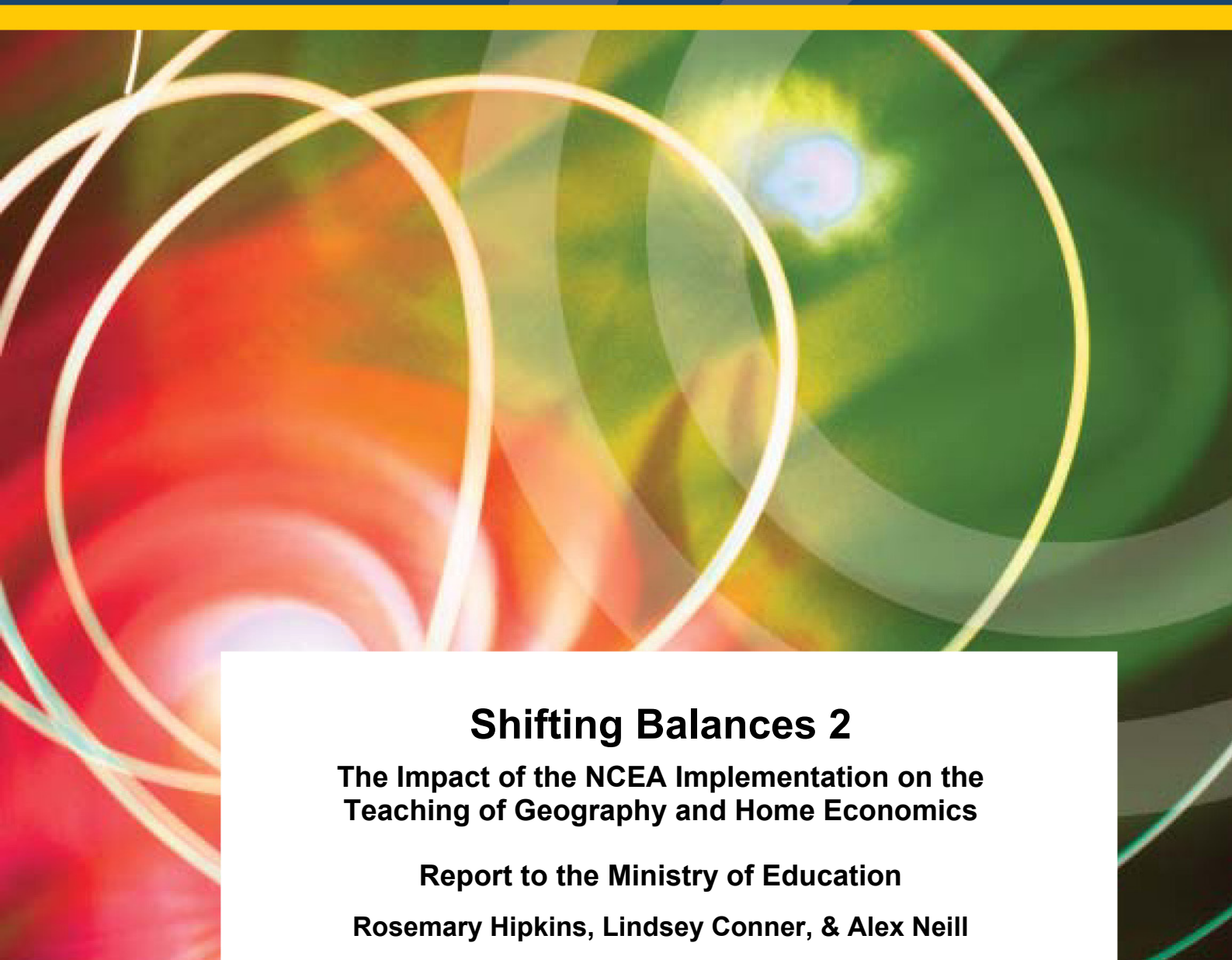




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Shifting Balances 2

The Impact of the NCEA Implementation on the Teaching of Geography and Home Economics

Report to the Ministry of Education

Rosemary Hipkins, Lindsey Conner, & Alex Neill

RESEARCH DIVISION

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geography and home economics**

Rosemary Hipkins, Lindsey Conner, and Alex Neill



NEW ZEALAND COUNCIL FOR EDUCATIONAL RESEARCH
TE RŪNANGA O AOTEAROA MŌ TE RANGAHAU I TE MĀTAURANGA

WELLINGTON

2005

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1. Introduction

This research identifies and discusses recent changes in the teaching of home economics and geography at Years 11 and 12 of the New Zealand school system. It explores ways in which these changes may be related to the introduction of the National Certificate in Educational Achievement at Year 11 (NCEA Level 1) and at Year 12 (NCEA Level 2). The research builds on an earlier project (2003) that employed the same methodology to explore changes in science and mathematics teaching at NCEA Level 1 (Hipkins & Neill, 2005). The research describes the nature and extent of the changes that were identified, and explores how these changes seem to be related to teachers' personal teaching priorities and to professional development initiatives in their schools, as well as to the NCEA. These possibilities obviously offer a wide lens for thinking about change within the classroom.

First introduced at Level 1 in the 2002 year, assessment for the NCEA qualification is standards-based. Previously most¹ Level 1 students sat a norm-referenced end-of-year external examination (School Certificate) that had some internally assessed components in some subjects, including geography, but not home economics. At Level 2 students previously studied for a fully internally assessed Sixth Form Certificate. For many students this was superseded by the NCEA Level 2 qualification in 2003, but this was not compulsory until 2004, the year in which the Level 3 qualification was also assessed for the first time. Level 3 replaced the previous norm-referenced Bursary examinations that served as university entrance qualifications.

The research questions

With the introduction of the internally assessed achievement standards, it was hoped that teachers would plan programmes that placed more emphasis on the practical and/or process components of their subjects and that integrated “skills” with “content”. This is one aspect of this study. The Ministry of Education, who commissioned the research, was also keen for the researchers to seek evidence (if any) of shifts in teacher perceptions of the purposes for their teaching, both with respect to “content” and assessment for learning.

¹ The exceptions occurred in schools that offered modular courses which were fully internally assessed with students' achievement moderated against a “reference test”.

Six questions were used to frame the research process, some of them building directly on the findings from the earlier round of *Shifting Balances* research.

1. As a result of the introduction of the NCEA qualification, are there identifiable changes in the structure of Levels 1 and 2 programmes for geography and home economics?
2. How do teachers plan and structure their programmes of learning and select their assessment tools? Are standards being combined in new ways? If so, which standards and how? What has been the impact of such changes on teachers' views of relevant curriculum knowledge?
3. Are there identifiable changes in teaching approaches used within geography and home economics courses or courses including assessments from these domains that support the development of practical skills, or that allow teachers to address students' attitudes and values relevant to the subject area?
4. Has recent professional development undertaken by the teachers contributed to changes in teaching and learning within these subjects? (For example Literacy Leadership, Beacon Schools, focused school-wide PD, cluster PD, ICT lead school, AtoL/ABeL, National Exemplars project, NCEA jumbo days.)
5. What types of evidence are being used to make summative judgements for internally assessed standards and how is this evidence being collected?
6. How do teachers view formative assessment? Has their formative assessment practice changed and, if so, how?

Background to the research

A National Qualifications Framework (NQF) underpins the NCEA reforms. This framework is intended to organise all credits achieved at a particular level so that they can be credited for one of the many national certificates available. For most school students it is anticipated that the credits they gain will count towards an NCEA award, although schools may also offer other certificates such as the National Certificate in Employment Skills (NCES).

Specifying standards: Achievement and unit standards

There are two types of standards in use for assessment of learning—achievement standards and unit standards. The credits gained from both contribute equally to the total of 80 needed to gain a Level 1 NCEA, or to the 60 credits needed for Level 2, although there are some differences between the two types of standards:

- **Achievement standards** have been developed for all “conventional” Years 11–13 secondary school subjects as part of the NCEA initiative. These specify three levels of achievement: achieved, achieved with merit, and achieved with excellence.
- **Unit standards**, which were a forerunner to achievement standards and have continued to co-exist alongside them, are competency-based, specifying the standard at a pass/fail level only.

While both types of standards can contribute credits, most “academic” courses that lead to an NCEA award are predominantly if not exclusively assessed with achievement standards. A wide range of unit standards is used to assess “alternative” courses that may lead to another national certificate—for example an NCES² award. In home economics schools may mix achievement standards from the Health and Physical Wellbeing learning area with unit standards that may include some industry-based catering standards. This mixing of achievement and unit standards appears to be less common in geography.

The full suites of achievement standards available at Levels 1–3 in each subject are summarised below. (Although the focus of the research was on Levels 1 and 2, teachers sometimes discussed Level 3 standards and so these are also included for reference.) Internally assessed standards are indicated as (I) and standards assessed in an end-of-year external examination are indicated as (E). While each standard has a unique identification number, teachers commonly referred to them as, for example 1.1 or 3.2, so these are the numbers we have used in the summary. These suites of standards are registered and maintained by the New Zealand Qualifications Authority (NZQA).

Geography achievement standards

Level 1

- 1 (E) Examine an extreme natural event and the human response, 3 credits.
- 2 (E) Examine population patterns, processes, and issues, 3 credits.
- 3 (E) Examine resource use in a farming or mining context, 3 credits.
- 4 (E) Apply skills and ideas with direction in a geographic context, 4 credits.
- 5 (I) Carry out and present directed geographic research, 5 credits.
- 6 (I) Examine a contemporary geographic issue and evaluate courses of action, 3 credits.
- 7 (I) Examine a global geographic topic, 3 credits.

Level 2

- 1 (E) Explain a natural landscape, 3 credits.
- 2 (E) Explain an urban settlement, 3 credits.
- 3 (E) Explain disparities in development within or between countries, 3 credits.
- 4 (E) Apply skills and ideas in a geographic context, 4 credits.
- 5 (I) Carry out and present guided geographic research, 5 credits.
- 6 (I) Explain a contemporary geographic issue and evaluate courses of action, 3 credits.
- 7 (I) Explain a geographic topic at a global scale, 3 credits.

² National Certificate in Employment Skills.

Level 3

- 1 (E) Analyse a geographic environment, focusing on the interacting natural processes, 3 credits.
- 2 (E) Analyse a cultural process, 3 credits.
- 3 (I) Analyse the role of geography in planning and decision making, 3 credits.
- 4 (E) Select and apply skills and ideas in a geographic context, 6 credits.
- 5 (I) Carry out geographic research with consultation, 3 credits.
- 6 (I) Analyse a contemporary geographic issue and evaluate courses of action, 3 credits.
- 7 (I) Analyse a geographic topic at a global scale, 3 credits.

Home economics achievement standards

Level 1

- 1 (I) Explore cultural influences on food choices, customs, and beliefs, 4 credits.
- 2 (I) Demonstrate and apply safe food-handling practices and strategies, 5 credits.
- 3 (E) Identify how societal influences may impact on the hauora/wellbeing of families, 4 credits.
- 4 (I) Plan and prepare food to meet the nutritional needs of an identified individual, 6 credits.
- 5 (E) Interpret and apply food and nutrition information, 5 credits.

Level 2

- 1 (E) Examine the impact of the living environment on hauora/wellbeing, 4 credits.
- 2 (I) Examine care provision for a nominated group, 4 credits.
- 3 (I) Explore a nutritional concern for a targeted group, 4 credits.
- 4 (E) Describe beliefs and practices associated with vegetarianism, 4 credits.
- 5 (I) Examine the nutritional considerations of people with high energy needs, 4 credits.
- 6 (E) Examine New Zealand food choices and eating patterns, 4 credits.

Level 3

- 1 (I) Explore a current nutritional health issue in New Zealand, 6 credits.
- 2 (I) Examine the nutrient content of food to meet individual needs, 4 credits.
- 3 (E) Analyse the influences and effects of media messages about food and nutrition, 4 credits.
- 4 (E) Discuss the issues and effects of globalisation on food choices and health in New Zealand, 5 credits.
- 5 (I) Analyse the impact of societal factors on the hauora/wellbeing of New Zealand families, 5 credits.

A note about the title: Shifting Balances

Teachers' classroom practice is complex. As we worked through the methodological issues in the first of these studies we identified a range of aspects of classroom practice where one way of working or set of emphases could be balanced against another way of working/set of emphases. We anticipated that any of these sets of balances in classroom practice might potentially shift during the implementation of an initiative such as the NCEA. The list of classroom practices that we identified as potentially needing to be balanced against each other during classroom teaching in the senior secondary school was:

- time devoted to learning balanced against time devoted to assessment;
- use of internal assessment balanced against use of external assessment when assessing for qualifications;
- time devoted to developing new “content” knowledge balanced against time devoted to the development of new skills and/or the exploration of attitudes and values;
- a direct (acontextual) focus on concepts/facts/skills balanced against teaching that embeds learning in contexts of relevance to students' lives and interests;
- tool/methodology acquisition by direct “skill and drill” balanced against acquisition via open problem solving/investigations;
- participation in teacher directed learning activities in which the teacher's ideas take precedence balanced against participation in activities that are student-led and/or in which students determine the pace and sequence of learning and/or actively contribute their ideas;
- time when students learn as individuals balanced against time when they participate in group learning activities; and
- a focus on the cognitive/conceptual aspects of learning balanced against a focus on the metacognitive—that is, students' thinking about their thinking and learning.

We foresaw that a shift of balance in one aspect might be reinforced by a related shift in another aspect—or it might equally well be effectively cancelled out by a compensating shift in another factor and this is precisely what we found in the first round of the research (Hipkins & Neill, 2005). We therefore decided to stay with this title, in anticipation that this second round of the research would yield a similar dynamic complexity.

2. Methodology

This section describes the research design and explains how specific challenges and constraints were overcome as they were encountered. Data was gathered using a case study approach and was predominantly small-scale, and qualitative. This is the second iteration of this methodology, and only minor changes were made to the research process followed in *Shifting Balances One* (Hipkins & Neill, 2005).

A summary of the Shifting Balances research methodology

In the first round of the research, we were challenged by the perception, thrown up by our early consultation, that “things were going backwards” in classrooms as the NCEA implementation was bedding in. Although our focus was on describing any interesting changes in classroom practice we might find, we did not want to risk being seen to distort the data by over-identification of positive changes if we only sought and reported on these. Also, in the absence of any recent, large-scale studies of actual classroom practice in secondary school mathematics and science teaching in New Zealand, there were no available baseline data against which we might measure change in classroom practice. This meant that we had to rely on teachers’ own perceptions of changes they had made. These challenges did not change with the shift of focus to geography and home economics and so we used a modified version of the teacher self-assessment instrument we had devised for the first iteration of the research (see Appendix A).

As a result of the findings in the *Shifting Balances* study of science and mathematics, we realised that we needed to ask questions about overall teaching programmes and how teachers were balancing aspects of teaching the curriculum with providing opportunities for students to achieve both internally and externally assessed standards. Interviews with individual teachers were therefore designed to provide rich contextual information about the factors which helped or hindered implementation and how programmes of work or teaching methods had changed as a consequence of implementation of NCEA.

Preliminary scoping for the project

In late 2004 several teacher leaders from the Beacon Schools³ project in home economics were invited to attend a focus group to share their impressions of the extent of innovative teaching practices at Levels 1 and 2, and their views on enabling factors and barriers to change. A similar focus group meeting was held in another region with a school adviser, a ministry adviser, and an NZQA subject specialist to discuss Levels 1 and 2 geography achievement standard implementation. These discussions were used to identify likely case study schools. Two geographic areas were chosen for the potential to locate the case studies in a mix of urban and small town/rural areas. The regions provided contrasts of population composition, and potentially would reflect North Island/South Island differences. The participants in the focus group sessions identified strong classroom teachers with whom to work.

In the focus groups we also sought opinions about changes in classroom practices. This feedback allowed people who would not be directly involved in the case studies to tell us about ideas they have tried and/or issues they have encountered. It provided a wide perspective on the extent of innovative practices at this stage of the NCEA implementation process. We explored changes to the self-reflection sheet, as well as the open interview questions we had drafted from those used in the first round of the *Shifting Balances* research. These modified questions addressed the six research questions for this second round (see Section 1). All materials were sent out to participants ahead of the actual meeting dates.

The case study schools

Teachers who had been identified as part of the focus group process of each subject were invited to participate via an initial contact with the school principal. Lists of potential participants were balanced as far as possible to provide a variety of school types and deciles. It was originally intended that the teachers would be in two geographic areas but some principals or teachers declined and there were various reasons why others could not take part. Accordingly the sample was widened to include teachers from a wider geographic range, with the two original areas remaining as the hubs of each group. Adjustments we made to the list of invited teachers throughout the recruitment process resulted in changes to the overall mix of the sample. While we aimed for variation, we cannot claim that our final sample is representative of the wide range of schools in which New Zealand teachers work.

After an initial informal approach to the principals, formal letters explaining the project were sent to both the principals and relevant teachers. All the teachers we approached agreed to participate. The final sample included 10 geography and 10 home economics teachers.

³ Beacon Schools is a MOE-funded professional development initiative with a restricted focus on subjects that were not previously assessed for qualifications at the senior secondary school level, but that can now be so assessed post-NCEA implementation.

Geography study schools

The geography participants mainly teach in high-decile schools. There are two all boys' schools and one all girls' school. The remaining seven are co-educational. Two of the schools are located in provincial towns, four are in provincial cities, and four are in major cities. Of this latter group, one is a central city school and the other four are suburban. All 10 are state schools, and apart from one area school (Years 7–13), they enrol students from Year 9 to Year 13.

Table 1 **Schools data table: Geography teachers**

| <i>School</i> | <i>Decile</i> | <i>Size</i> | <i>Type</i> | <i>Student body</i> |
|---------------|---------------|-------------|------------------|---------------------|
| School A | 8 | Large | State | Co-educational |
| School B | 10 | Large | State | Co-educational |
| School C | 7 | Large | State | Co-educational |
| School D | 8 | Medium | State integrated | Boys |
| School E | 7 | Medium | State | Boys |
| School F | 8 | Medium | State integrated | Girls |
| School G | 8 | Medium | State | Co-educational |
| School H | 2 | Large | State | Co-educational |
| School I | 8 | Large | State | Co-educational |
| School J | 8 | Large | State | Co-educational |

Home economics study schools

The 10 schools in which the home economics teachers work are more varied across the range of deciles. There are three girls' schools and one boys' school. The other six schools are co-educational. Two are located in provincial towns, three are in provincial cities, and five are suburban schools in major cities. Seven are state schools and three are private. The seven state schools enrol students from Year 9 to Year 13. The three private schools span all year levels from 1–13.

All of the home economics teachers are HODs. As in the geography teachers' sample, the interviewees are predominantly very experienced teachers. Nine of them have more than 2 years' experience in teaching and assessing towards NCEA and many have been involved in the initial development work for unit standards and consequent achievement standards development, either as writers, moderators, or external examiners.

Table 2 **Schools data table: Home economics teachers**

| <i>School</i> | <i>Decile</i> | <i>Size</i> | <i>Type</i> | <i>Student body</i> |
|---------------|---------------|-------------|-------------|---------------------|
| School A | 1 | Medium | State | Co-educational |
| School B | 6 | Large | State | Boys |
| School C | 8 | Large | State | Co-educational |
| School D | 6 | Large | State | Co-educational |
| School E | NR | Medium | Private | Girls |
| School F | 6 | Medium | State | Girls |
| School G | 8 | Large | State | Co-educational |
| School H | NR | Medium | Private | Girls |
| School I | NR | Large | Private | Boys |
| School J | 3 | Medium | State | Co-educational |

NR = Not relevant because private schools are not decile rated.

The design of the data gathering instruments

In the absence of any recent, large-scale studies of actual classroom practice in secondary school geography and home economics teaching in New Zealand, there were no available “baseline” data against which we could measure changes in classroom practices. Therefore we had to rely on teachers’ own perceptions of changes they had made.

We anticipated a risk of being seen to distort the data by over-identification of positive changes if we only sought and reported on these. On the other hand, the data could have been as easily distorted negatively if we had invited teachers to focus on factors they perceived to be problematic about the implementation of NCEA. We were also aware that often teachers say there have been no changes in their classroom practices unless they can report on some very substantial differences (Tytler, 2003). That is, small incremental changes are typically overlooked.

Alongside the implementation of NCEA and the associated professional development, such as jumbo days provided by the Ministry of Education and cluster group and subject association meetings, teachers have been participating in a wide range of other professional development programmes, both as individuals and as part of school-wide initiatives. It soon became apparent that all of these had to be taken into account, since teachers found it difficult to distinguish the amount of influence each had on their practices. We needed to develop a more holistic interpretation of factors influencing teaching and learning in the new NCEA implementation environment.

The design of the self-reflection instrument

With these challenges in mind, we designed a self-reflection instrument that could capture changes in a range of classroom practices, based on the instrument used in the first *Shifting Balances* project. The instrument drew teachers' attention to the multitude of smaller and larger changes that might potentially have happened, thereby meeting the challenge posed by Tytler (2003). We adapted the descriptors used in *Shifting Balances* where necessary so that they would be applicable in both geography and home economics classrooms, and added one more descriptor related to field work. This was identified by the focus group participants as particularly important for geography teaching.

The 20 modified descriptors used for the self-reflection sheet are shown in the table on the next page. These descriptors mix and match various aspects of classroom practice. For our purposes, we rearranged the descriptors so that we could distinguish between aspects of learning and aspects of assessment, for example. This rearrangement provided six distinct groupings of the selected descriptors, as shown in Table 4. Individual descriptors for each theme were presented in a random order on the reflection sheet.

Table 3 *The descriptors used for the teacher self-reflection sheet*

| Number assigned | Descriptor as modified from <i>Shifting Balances</i> |
|------------------------|--|
| 1 | Providing stimulus materials that challenge students' ideas and that encourage discussion, speculation, and ongoing exploration by groups of students working together. |
| 2 | Moving away from a strong focus on content "coverage". Moving towards a focus on ensuring understanding and meaningful learning of a reduced amount of content. |
| 3 | Encouraging students to make their own decisions in planning and carrying out practical investigations, research or critical analysis (e.g. using critical action cycle in HE or carrying out a research project in geography). |
| 4 | Involving students in making decisions about what should be learned and how this learning could happen. |
| 5 | Ensuring higher order tasks involving the generation, application, analysis, and synthesis of ideas, are well represented. |
| 6 | Encouraging students to actively clarify their own ideas and assumptions, and to think about their learning processes (e.g. by using concept mapping, model making, learning journals, exploration of alternative strategies, etc.). |
| 7 | Using students' personal interests, social/ethical concerns, and cultural identities, as the context of geography. Or using home economics topics and involving them in making choices about their learning. |
| 8 | Setting a variety of types of tasks during each unit. |
| 9 | Using a variety of methods to assess student understandings, at various points in a unit, (e.g. open-ended questioning, checklists, project work, problems, practical reports, role plays, journals, mind mapping, brainstorming). |
| 10 | Involving students in making decisions about what should be assessed, how assessment should be carried out, and what the next steps are. |
| 11 | Ensuring assessment incorporates a range of levels and/or types of thinking. |
| 12 | Collecting evidence of student understandings and perspectives early in a learning sequence to help plan subsequent lessons. |
| 13 | Ensuring students have ongoing feedback which indicates their strengths and weaknesses and their next learning steps. |
| 14 | Using appropriate research tools and strategies to explore an issue. |
| 15 | Including structured discussion and debate of evidence contributing to public issues that are of interest/importance to students. |
| 16 | Basing sequences of work around local community projects or concerns. |
| 17 | Using learning technologies to support quality learning behaviours such as exploration, conjecture, or collaboration (e.g. spreadsheets, internet, data loggers, databases, digital learning resources, GIS). |
| 18 | Exploring different values and perspectives that students bring to their geography/home economics learning. |
| 19 | Making connections with other curriculum areas. |
| 20 | Carrying out field work. |

We felt it was important that teachers had time to consider their responses rather than making judgements on the spot. Accordingly, the self-reflection sheets were sent to teachers ahead of the arranged interview time, as were the additional open-ended interview questions (see below).

Table 4 **Themes addressed by self-reflection descriptors**

| <i>Theme</i> | <i>Sub-themes</i> | <i>Descriptor numbers</i> |
|------------------------------|--|---------------------------|
| Assessment | Formative assessment | 9, 12, and 13 |
| | Variety of assessment tasks | 11 |
| | Student input into assessment decisions | 10 |
| Rich tasks | Types of rich tasks | 1, 5 |
| | Variety in tasks | 8 |
| Practical/research work | Own investigations | 3, 20 |
| | Using appropriate tools/strategies | 14 |
| Learning | For understanding (vs “coverage”) | 2 |
| | Involved in learning decisions | 4 |
| | Metacognitive skills | 6 |
| Use of contexts for learning | Personal interests and values, local and public issues, and other curriculum areas | 7, 15, 16, 18, 19 |
| Use of new technologies | | 17 |

Teachers were asked to assign a *priority* to each practice on the self-reflection sheet using a 5-point scale: very high, high, moderate, low, very low. The purpose of this was to find out what the teachers considered was important for the teaching of their subject and their views about teaching and learning. Next we captured their perceptions of actual changes by using two scales. One recorded teachers’ perceptions of how often they carried out each of the described practices pre-NCEA, the second how often they did these things now. We used a 4-point scale: hardly ever/never, occasionally, often, all/most of the time. The differences between the two sets of responses provided us with the data on perceived changes—both positive and negative. These are reported in Section 4. A copy of the full self-reflection instrument is provided as Appendix A.

For analysis, the priority scale was extended to nine points to include the 5-point scale as indicated above, plus the lines in between each category, since some teachers ticked on the lines. The analysis involved allocating each practice a priority and averaging these for each of the 10 teachers for both geography and home economics. This gave us an insight into the types of changes that the responding teachers would be most likely to value.

The change-in-practice data were also ranked and then subjected to the Wilcoxon match-paired test to determine the magnitude of the differences between pre- and post-NCEA perceptions of

changes, and to test whether these were significant. The Wilcoxon match-paired test is a non-parametric test that can be used with relatively small sample sizes such as this.

The results of these analyses are given in Section 4.

Exploring the teaching context in depth

Teachers' classroom practices are embedded in the wider contexts of their departmental team and its practices, their school and its policies and practices, and their community with its particular characteristics and expectations. We felt it was important to embed the findings from the self-reflection sheet within the range and variability of teaching contexts. We designed an interview schedule with 21 open-ended questions to cover at the outset of each interview (see Appendix B). We then worked through the self-reflection sheet, capturing teachers' comments where possible about the ratings that they had made. In several instances, time constraints prevented extensive discussions about the self-reflection sheet and in many cases teachers had explained their practices in detail in response to the interview questions.

Interviews took between 2 and 4 hours in total and they were usually held in the teacher's office or classroom. The researchers wrote notes during the interviews and clarified aspects of the notes with the teachers at the time of the interviews. Schools were provided with money to pay for teacher release time, and the teachers were also offered some financial compensation for the time they spent preparing for the visit. As in the first *Shifting Balances* project, most teachers commented that they had found the self-reflection sheet thought provoking. Some had given copies to other teachers in their subject area. Most teachers had prepared notes before the interview. All of the teachers seemed to enjoy the opportunity to discuss professional issues related to the NCEA implementation regardless of the tenor of their actual views and feelings about it.

3. Setting assessment practices in the wider school context

Although this report focuses on changes made by individual teachers as they implemented achievement standards for the NCEA, these changes are part of an ongoing continuum of reforms that began with the development of a National Qualifications Framework (NQF). This was followed by the development of competency-based unit standards that schools were able to use for assessment for qualifications alongside the existing norm-referenced national examinations (School Certificate at Year 11 and Bursary at Year 13) and the Year 12 Sixth Form Certificate award. Teachers' experiences with these earlier assessment reforms are part of the background they brought to the NCEA reforms and so we asked them about this in the open interviews.

School policies related to the NCEA implementation is another important aspect of the context in which individual teachers make decisions about their classroom practice. In other research on the NCEA implementation we have found that school practice with regard to the credit totals that can be offered for courses varies considerably (Hipkins, Vaughan, Beals, & Ferral, 2004). Similarly, schools have very different policies with regard to student progression from one level of the subject to the next. We also asked about these aspects of the school context and report them here as background to the main findings.

Previous experience with unit standards

Geography teachers

Four of the geography teachers had used unit standards prior to the implementation of the NCEA. These teachers were very familiar with unit standards since they had been working in trial schools when unit standards were introduced. Two other teachers had used them for several years. These teachers' comments about the use of unit standards for assessment were generally positive, although some thought they were a little too easy. During the trial period there had been issues of workload associated with maintaining Sixth Form Certificate assessments alongside newly developed unit standard tasks and preparing activities was a problem because it required lots of time. One teacher commented that unit standards were better than Sixth Form Certificate because

“they reflected what we were already doing”. There was also some concern that “the system was not in long enough to give it a fair go”.

One geography teacher had found unit standards “messy at first” although this was quickly sorted out. She felt their implementation had not been well supported. This experience had helped her understand the NCEA and she noted that some geography teachers were now turning back to unit standards to regain flexibility to teach things they valued. An example of this was provided by one of the younger teachers who said he had picked up a Level 1 unit standard this year so the students could explore a work of fiction (novel, film, or video) from a geographic perspective. He had put a list of suitable works together in consultation with the English teachers and he noted that this was popular—“lots of students are talking about it”.

Home economics teachers

Five of the home economics teachers had used unit standards prior to the NCEA. They had very different views on their success as an assessment initiative. Two teachers found easy and straightforward and said it was easy to write tasks that students then found them to follow. They were also considered useful by other teachers because they provided fair assessments with some choice for students. Compared with Sixth Form Certificate, students could now gain credits in “chunks”, which meant they had some success throughout the year. The system of unit standards also provided more consistency between assessments in the different schools, so that if students moved schools, they could take credits with them. This did not happen previously with Sixth Form Certificate.

A very experienced home economics teacher commented that her students liked to monitor their progress through her system of collating results for unit standards:

In my mark book I used to tick off every PC as they achieved it then highlighted in yellow for the elements, then when they passed the standard I highlighted in pink. Students used to ask, ‘Can I be pinked?’. They got direct feedback. The marking workload was huge though. I used to mark it bit by bit, but it was very satisfying teaching. [With unit standards] assessment drove learning in a positive way.

Another home economics teacher had been trained in 1997 and had used unit standards ever since. She had “always liked them” although recently she had become more dissatisfied with some that were less work for the number of credits than the equivalent achievement standards. While that made the unit standards easier, she said they did not “challenge me professionally” in the way that achievement standards now did. One of the teachers who had used “Sixth Form Certificate to the end” said she was now using a Level 2 unit standard and the equivalent achievement standard for the topic of vegetarianism. These assessed complementary aspects of the topic. She felt the use of both helped students to “understand the whole topic” with the unit standard providing the “what and how” and the achievement standard providing the “why”.

By contrast, several home economics teachers had found unit standards “fraught with hassles”. Some thought they were too easy while others thought there was a *perception* that they were too easy, but this was not actually the case. There was an increase in workload associated with the designing of new tasks and in some cases with the assessment of both Sixth Form Certificate and unit standards activities. There was also uncertainty about the status of unit standards as a qualification, especially during the first 2 years of the initiative. In one teacher’s view the number of elements stifled creativity and worked against coherence in the subject.

Comment

The teachers in this study seem to have had mixed experiences during the time of unit standards implementation. Some were positive about using unit standards. Others were not. Some who had been positive at the time now viewed them less favourably in comparison with achievement standards. This aligns with other NCEA-related research, where we have found a common perception that unit standards are inferior to achievement standards, and should not be used with more “academic” students (Hipkins et al., 2004).

Against this background, it is interesting that some of these innovative teachers are reconsidering the place of unit standards in their courses (see also Section 5) and are selectively reintroducing them where they have good reasons to do so.

NCEA courses and policy in the case study schools

Range of courses

As the next two tables show, most schools in the sample offer NCEA courses at each of Levels 1–3, in both geography and home economics.

Table 5 *Geography subjects offered*

| <i>School</i> | <i>Total no courses</i> | <i>L1 NCEA</i> | <i>L2 NCEA</i> | <i>L3 NCEA</i> | <i>Other geography-related courses</i> |
|---------------|-------------------------|----------------|----------------|----------------|--|
| A | 4 | X | X | X | Senior social studies |
| B | 5 | X | X | X | L2 and L3 tourism |
| C | 3 | X | X | X | |
| D | 3 | X | X | X | |
| E | 5 | X | X | X | L2 and L3 tourism, Yr 10 internal L1 |
| F | 3 | X | X | X | L2 and L3 tourism |
| G | 3 | X | X | X | L2 tourism |
| H | 3 | X | X | X | L2 and L3 tourism |
| I | 3 | X | X | X | |
| J | 5 | X | X | X | L2 and L3 tourism, L1 social studies achievement standards |

There is a tendency for home economics to offer a wider range of subject alternatives to the core courses. This doubtless reflects the role the subject plays as a feasible option for “less academic” students—at least in the minds of deans and timetablers (Hipkins et al., 2004). This conception is seen as frustrating and problematic by the home economics teachers, but it is an important part of the context for this study because it must impact on the types of skills and attitudes that students bring to these courses—at least initially. By contrast, students who choose geography probably expect it to be more “academic”. One geography teacher spoke of his frustration that the school’s dean counselled students out of choosing geography unless they were prepared to do more work than they might expect in other subjects!

Table 6 *Home economics subjects offered*

| <i>School</i> | <i>Total no courses</i> | <i>L1 NCEA</i> | <i>L2 NCEA</i> | <i>L3 NCEA</i> | <i>Other home economics-related courses</i> |
|---------------|-------------------------|----------------|----------------|----------------|---|
| A | 4 | X | X | X | L1/2 hospitality |
| B | 7 | X | X | X | Both AS only and Mixed US and AS Core home economics Yr 9 Core food technology/HE Yr 10 |
| C | 7 | X | X | X | US-based L1 home economics L1, L2, and L2/3 catering |
| D | 5 | X | X | X | L1/2 hospitality Core food technology |
| E | 3 | X | X | X | |
| F | 4 | X | X | X | Hospitality L1 and L2 Child development L1 Core Yr 9 HE/food tech (1/2 year) Core Yr 10 HE/food tech (1/2 year) Option (full year) ¼ food tech/¾ home economics |
| G | 6 | X | X | X | 3 choices at L2: Achievement standards only, AS/US mix, childcare and family Core home economics/food tech |
| H | 3 | X | X | X | Core food tech |
| I | 6 | X | X | X | Core home economics/food tech |
| J | 3 | X | X | X | Core food tech Yr 9 Core home economics Yr 10 |

School policy concerning credit values for courses

Other NCEA research has found that the numbers of credits offered for individual courses and subjects can be a vexed issue. Teachers have mixed feelings about whether they should offer high credit totals as an incentive to students to choose their subject, or to ensure “curriculum coverage” (Alison, 2005; Hipkins et al., 2004). In some schools the issue has been debated and policy guidelines produced. In other schools teachers are free to choose, and may then perceive themselves to be in competition for students with teachers of other subjects.

The next two tables show the numbers of credits offered in NCEA courses in home economics and geography, and, where they felt able to make a comment, summarise teachers’ comments about school policy in relation to credit values of courses.

Table 7 *Patterns of credit totals for geography courses*

| <i>School</i> | <i>Number of credits per geography course</i> | <i>Comments on school policy/teacher decisions</i> |
|---------------|---|--|
| A | 25 at L1 21 at L2 24 at L3 | No school-wide policy Topic is widely discussed amongst staff Teacher has chosen 21AS and 4US credits at Level 1 |
| B | 21 at L1 22 at L2 21 at L3 | Department chooses Need to take factors such as preparation for subsequent years, UE requirements, teacher strengths and student interests into account when deciding which AS to offer |
| C | 24 at L1 24 at L2 24 at L3 | School guideline is 20–30 |
| D | 24 at L1 24 at L2 24 at L3 | School policy is 24 |
| E | 24 at L1 24 at L2 24 at L3 | |
| F | 20 at L1 22–24 at L2 24 at L3 | Follows school policy for each level |
| G | 24 at L1 24 at L2 24 at L3 | School policy is 24 credits/subject |
| H | 21 at L1 24 at L2 21 at L3 | School policy doesn't have an upper limit |
| I | 24 at L1 24 at L2 24 at L3 | |
| J | 24 at L1 24 at L2 24 at L3 | School policy doesn't have an upper limit |

Table 7 shows that, while there is a little variability, most geography teachers offer courses with a full suite of 24 credits at all three levels. Their comments suggested that these credits are predominantly gained from achievement standards. We have found a similar pattern in other courses considered to be suitable for “academic” students (Hipkins, 2004; Hipkins et al., 2004).

Table 8 *Patterns of credit totals for home economics courses*

| <i>School</i> | <i>Number of credits per course</i> | <i>Comments on school policy/teacher decisions</i> |
|---------------|--|---|
| A | 23 at L2 | School range 18–24 No definite maximum number but principal thinks “less is best” |
| B | 24 at L1 | School policy doesn’t have an upper limit |
| C | 35 at L1 22 at L2 | School range 18–30 L1 uses complementary AS/US for some L1 topics — hence high numbers |
| D | 20 at L1 18 at L2 18 at L3 | No school-wide constraints Teacher expects to offer more credits as her confidence at “picking up externals” grows |
| E | 24 at L1 20 at L2 | School range 20–24 Teachers are encouraged not to do more than this |
| F | 20 | School policy no more than 20 per level |
| G | 20 at L1 Varies L2 | No minimum/no maximum |
| H | 18–20 at L1 18–20 at L2 24 at L3 | Follows school policy for each level |
| I | 24 at L1 20 at L2 24 at L3 | No minimum/no maximum |
| J | 20 at L1 19–20 at L2 | No minimum/no maximum |

While the data set for home economics is less complete, greater variability in course totals is nevertheless very apparent. Teachers’ comments indicated that they selected from both unit and achievement standards to design courses to meet the perceived learning needs of each student cohort (see Section 5). Again, this accords with our earlier NCEA research that found teachers of courses considered to be less “high stakes” academically were making more use of the new flexibility of the NCEA to redesign courses to meet student learning needs (Hipkins, 2004). This earlier research also noted that these types of courses are more likely to provide personally meaningful contexts and a better mix of practical and theoretical aspects. These are factors that have been identified as important for developing “lifelong learning” skills. This is a theme we return to in the final section.

The tables also show that there is considerable variation in school policy about the numbers of credits per course that can be offered.

School policy concerning progression

Conditions required for progression from one level to the next is another aspect of school policy that impacts on the mix of students in classes in different subjects. Where strict entry criteria must be met, teachers can arguably expect not to face as wide a range of ability levels in one class, at Levels 2 and 3.

Table 9 **Entry requirements for Level 2 geography courses**

| School | Number of L1 credits to gain L2 entry | Comments on school policy/teacher decisions |
|---------------|--|--|
| A | 8–12 | Can be in English or a social science Dept is considering requiring half of these to be credits from external assessments |
| B | 17–21 | At the teacher's discretion if this range not met |
| C | 15–24 | Also mentions teacher discretion |
| D | 18–24 12 credits in English | At the teacher's discretion—able students can pick up at L2 |
| E | 12 or equivalent in English or history | Students can pick up L2 or L3 without doing previous level |
| F | No geography required | Students can pick up L2 or L3 without doing previous level |
| G | 17 | If 12–16 credits, check English/maths credits Students can pick up L3 without doing L2 |
| H | No geography required | Students can pick up L2 or L3 without doing previous level |
| I | No geography required | Students can pick up L2 or L3 without doing previous level |
| J | No geography required | Students can pick up L2 or L3 without doing previous level |

The table shows considerable variation in schools' policies. Four geography courses require no prerequisites, doubtless to encourage students into these optional courses to keep class sizes viable. The requirement for credits in English (two schools) relates to the need for students to write extended answers in their assessments. Four schools have more stringent prerequisites, with 15 or more Level 1 geography credits needed to progress to Level 2.

Table 10 *Entry requirements for Level 2 home economics courses*

| <i>School</i> | <i>Number of credits to gain L2 entry</i> | <i>Comments on school policy/teacher decisions</i> |
|---------------|--|---|
| A | 16 | At teacher's discretion—only 2/13 met the criteria in 2005 |
| B | None | Students can pick up L2 or L3 without doing previous level |
| C | A pass in L1 NCEA (not necessarily including home economics) | Students need "good" credits in English because of writing required |
| D | 10 L1 credits plus 10 in English | English literacy requirement at teacher's discretion |
| E | None | Students can pick up at either L2 or L3 although nutrition component is "hard work" to catch up |
| F | 10 | Or 10 credits history/English at teacher's discretion English requirement for L3 |
| G | 8 | English literacy requirement at teacher's discretion |
| H | None | Students can pick up L2 or L3 without doing previous level |
| I | None | Students can pick up L2 or L3 without doing previous level |
| J | 14 | Or total of 80 credits at L1 |

Five home economics courses require no prerequisites. One school requires English credits at Level 1, and another a "pass" in Level 1 NCEA more generally⁴. Where credit prerequisites are demanded, the credit total tends to be lower than for geography. Again, the variability in school policy is evident.

⁴ A Level 1 pass requires 8 credits for "literacy" in any case.

4. The nature and extent of teachers' reported changes in their classroom practice

This section reports on the quantitative patterns of teachers' responses to the self-reflection sheets that were mailed to them ahead of the scheduled interview (see Section 2). Teachers' perceptions of the value that should be attached to the various classroom practices identified on the reflection sheet are compared with their perceptions of actual changes in classroom practice. The section begins with a short discussion of the collation and analysis of the teachers' responses.

When considering the patterns reported, it should be noted that findings based on such a small sample cannot be generalised to all teachers of these subjects. Statistics such as average scores and variances are susceptible to being affected by just one or two respondents. For this reason, most of the analysis is done on ranked scores and the statistical tests done are non-parametric, which are robust, and make no assumptions about normality.

Quantifying responses to the provided scales

Teachers were asked to assign their current priority to each descriptor of teaching practices using a 5-point scale from "very low" to "very high". Some teachers ticked on the lines between boxes rather than in the boxes provided. We took account of these responses by collating them on a 9-point scale rather than the five we had initially designed:

1 = very low; 2 = on the line between 1/3; 3 = low; 4 = on the line between 3/5; 5 = moderate; 6 = on the line between 5/7; 7 = high; 8 = on the line between 7/9; 9 = very high.

Responses to frequency of classroom practice were similarly collated using a 7-point scale:

1 = hardly ever/never; 2 = on the line between 1/3; 3 = occasionally; 4 = on the line between 3/5; 5 = often; 6 = on the line between 5/7; 7 = all/most of the time.

Once all responses had been collated numerically, the scores for each descriptor were averaged. The average scores were then ranked from 1 for the practice rated as the highest priority to 20 for the practice rated the lowest priority. The same process was followed to rank teachers'

perceptions of the frequency of each practice before and after the implementation of the NCEA. The results are summarised in Table 11 for geography and Table 12 for home economics.

The geography teachers' responses

Table 11 shows the average score for the priorities (S_p) assigned to each descriptor, and then ranks these (R_p) from 1 to 20 (highest ranking to lowest ranking). Next it gives the average score for the perceived frequency of practice pre-NCEA (S_b), and also ranks these (R_b). It then gives the average scores (S_a) and ranks (R_a) for the perceived frequencies of practice post-NCEA. The final column gives the difference in average frequency between current practice and pre-NCEA practice ($S_a - S_b$). This provides a means of quantitatively reporting the actual changes the responding teachers perceive that they have made. Each descriptor is explained in Table 3 of Section 2. The results in Table 11 can be analysed by the themes of assessment, rich tasks, learning, practicals, context, and technology. The distribution of descriptors between these themes is displayed in Table 4 (page 13).

Current priorities

Questions relating to the theme of rich and varied tasks within the classroom (coloured grey on the graphs that follow) were afforded the highest set of overall priorities. Three of the top six descriptors relate to rich tasks. The top equal rank went to descriptor 1 (providing stimulus materials that challenge students' ideas). The two other rich task-related descriptors were the use of higher-order tasks (descriptor 5) which was ranked fourth, and setting a variety of tasks (descriptor 8) which was ranked fifth equal.

Descriptors that related to practical or research-based tasks (blue colour) were next most highly ranked. Fieldwork (descriptor 20) had the equal top priority, while planning and carrying out practical or research work (descriptor 3) was ranked seventh equal. Descriptor 14 (using appropriate research tools) had a relatively low rank of fourteenth equal.

Descriptors relating to assessment issues (shaded in green) were mainly of average priority. The exception was student involvement in decision making about assessment (descriptor 10), which had the lowest priority.

Descriptors relating to learning contexts (shaded yellow) were also typically of a low to average priority except public issues (descriptor 15), which was ranked third most highly.

Descriptors relating to learning issues were of low priority. These are coloured orange. Learning for understanding (descriptor 2) ranked eleventh, with metacognition (descriptor 6) ranked seventeenth, and student involvement in learning decisions (descriptor 4) ranked nineteenth.

Technology use (descriptor 17) was ranked relatively lowly at sixteenth, and is seen as a somewhat separate dimension than the overall learning process.

Table 11 **Geography teachers' perceptions of priorities and changes in practices**

| Descriptor | Average priority (S_p) | Priority rank (R_p) | Av. Pre-NCEA (S_b) | Pre-NCEA rank (R_b) | Av. Post-NCEA (S_a) | Post-NCEA rank (R_a) | Change ($S_a - S_b$) |
|------------|----------------------------|-------------------------|------------------------|-------------------------|-------------------------|--------------------------|------------------------|
| 1 | 8.33 | 1= | 4.78 | 2 | 5 | 3 | 0.22 |
| 2 | 7.00 | 11= | 3.89 | 8= | 3.89 | 16= | 0 |
| 3 | 7.22 | 7= | 4.22 | 4= | 4.56 | 7= | 0.34 |
| 4 | 5.44 | 19 | 2.33 | 19 | 3.11 | 18 | 0.78 |
| 5 | 7.67 | 4 | 3.67 | 10= | 4.89 | 4 | 1.22* |
| 6 | 6.56 | 17 | 2.78 | 16 | 4.11 | 13= | 1.33 |
| 7 | 7.11 | 9= | 3.67 | 10= | 3.89 | 16= | 0.22 |
| 8 | 7.56 | 5= | 4.22 | 4= | 5.22 | 1= | 1 |
| 9 | 7.56 | 5= | 4 | 7 | 4.78 | 5 | 0.78 |
| 10 | 3.89 | 20 | 1.22 | 20 | 1.89 | 20 | 0.67 |
| 11 | 7 | 11= | 3.5 | 13 | 4.25 | 12 | 0.75 |
| 12 | 6.89 | 13 | 2.56 | 17= | 4.11 | 13= | 1.55* |
| 13 | 7.22 | 7= | 3.22 | 14 | 4.44 | 10 | 1.22 |
| 14 | 6.67 | 14= | 4.11 | 6 | 5.22 | 1= | 1.11 |
| 15 | 7.78 | 3 | 4.33 | 3 | 4.67 | 6 | 0.34 |
| 16 | 6.67 | 14= | 3.89 | 8= | 4.56 | 7= | 0.67 |
| 17 | 6.56 | 16 | 2.89 | 15 | 4 | 15 | 1.11 |
| 18 | 7.11 | 9= | 3.56 | 12 | 4.33 | 11 | 0.77 |
| 19 | 5.89 | 18 | 2.56 | 17= | 2.78 | 19 | 0.22 |
| 20 | 8.33 | 1= | 4.89 | 1 | 4.56 | 7= | -0.33 |

* significant at the 5 percent level

Comparing rankings of priority and practice

The rankings assigned to current practice by these geography teachers can be read from Figure 1. The practices with the highest ranking on current practice are at the top of the graph, whilst the lowest ranking ones are towards the bottom of the graph. High priorities lie to the right of the graph and low ones to the left. For example, descriptor 14 (using appropriate research tools) has equal top ranking on post-NCEA practice with descriptor 8 (variety of teaching tasks), but descriptor 8 has a much higher ranking on priority than descriptor 14.

It is more useful to compare the patterns *within* Figure 1 than to compare outright rankings of either priority or practice. Small changes in ranking can be assigned to random fluctuation. These are shown by points close to the diagonal line. This means that the teachers think they do these things about as much as they feel they should do them, or want to do them. Points well above the

line indicate practices where the descriptor has a substantially higher ranking for its current practice than its perceived priority indicates that it should—that is, these are things teachers think they do more often than they would like. Points substantially below the line show classroom practices that teachers currently carry out less often now than they would prefer to. Substantial changes were defined as differences of five or more points between the practice and priority rankings.

Five descriptors differed by five or more ranking points. Descriptors 14 (using research tools) and 16 (local community projects) are substantially above the diagonal line, meaning they are part of current practice more often than teachers' priorities indicate they should be. Descriptors 2 (learning for understanding), 7 (students' personal interests), and 20 (fieldtrips) are well below the line, which means they are not as much part of current practice as teachers would like.

The current practice and priority graph (Figure 1) can be further compared with the pre-NCEA practice and priority graph (Figure 2). This comparison explores whether the match between priority and current practice is better than the match between priority and practice pre-NCEA. On the whole, the points on Figure 2 lie a little closer to the line than they do in Figure 1. This means that overall there was a somewhat better match between priority and practice prior to NCEA than there is now. The pattern is complex, however, as discussed on page 30.

To see if an individual descriptor better matches teachers' priorities now than prior to NCEA, compare the vertical distance from the diagonal line to that descriptor in both Figure 1 and Figure 2. If this distance is now substantially smaller, there is a better match between priority and practice now. If it has increased since the inception of NCEA, then there is a poorer match between priority and practice. Descriptors marked with an asterisk show a substantial difference from the diagonal line on the graph. Descriptors marked with a plus sign show a substantially better fit between priority and current practice than priority and prior practice. Descriptors marked with a minus sign show a substantially worse fit between priority and current practice than priority and prior practice.

Figure 1 *Geography teachers' rankings for priorities and current practice*

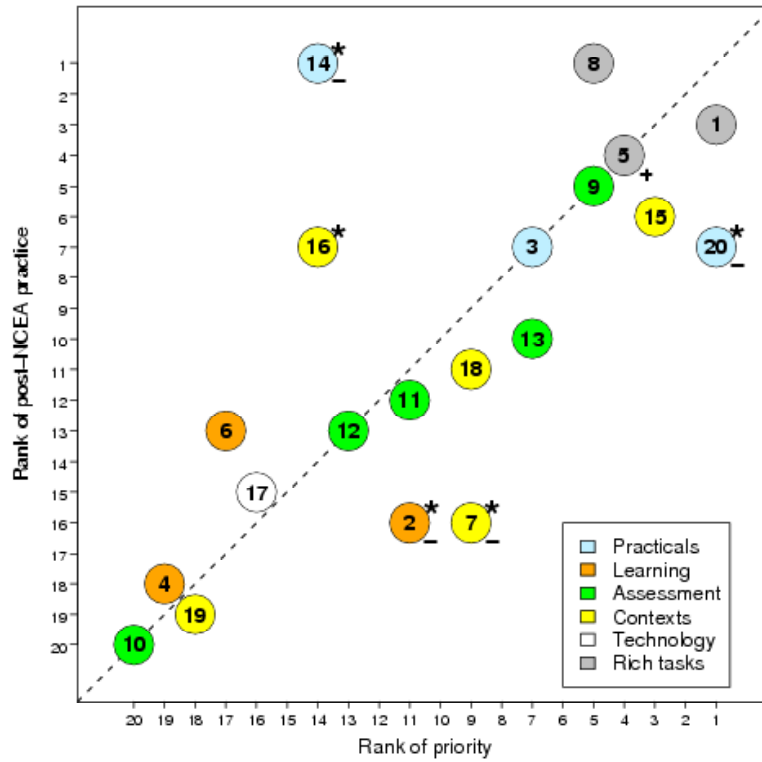
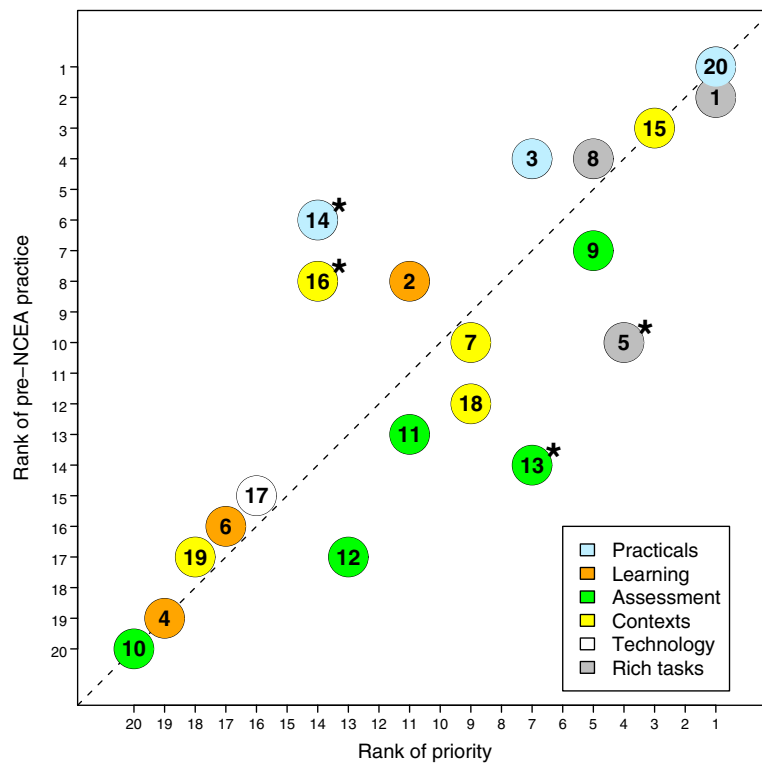


Figure 2 *Geography teachers' rankings for priorities and prior practice*



Discussion of patterns for geography teachers

Current practice for the rich tasks (shaded grey), the assessment tasks (shaded green), and technology (descriptor 17) were all close to the assigned priority that teachers gave them. Observe how the rich tasks cluster at the top right of Figure 1, indicating they are of high priority, and rank highly on current practice. Note that current practice for descriptor 5 (higher order tasks) and to a lesser extent descriptor 13 (feedback to students) both better match their priority now than they did pre-NCEA. Both these points lie closer to the diagonal line in Figure 1 than they do in Figure 2.

For practical or research-based tasks (coloured blue) there is an interesting pattern. Fieldwork (descriptor 20) is now less common than teachers would like to see. Before NCEA the match was much closer. On the other hand, the emphasis on using appropriate research tools (descriptor 14) is much more highly visible within the classroom than teachers' priorities indicate it should be. This was the case before NCEA, but is substantially more pronounced now. This indicates there may be some transference from active fieldwork to more passive forms of research. This is borne out by the teachers' comments in Section 5.

For the descriptors of the context of teaching and learning (coloured yellow) there is a similar finding. Less work is now based around students' interests (descriptor 7) than teachers' priorities suggest. This was not the case pre-NCEA. Work centred on community-based concerns (descriptor 16) is a more common feature of classrooms than teachers' priorities suggest it should be. This was true both before and since the introduction of NCEA. The other three descriptors (15, 18, and 19) were well balanced between practice and priority both pre-NCEA and post-NCEA. Again, teachers' comments suggest that NCEA-related changes have impacted on their ability to spontaneously use certain types of contexts for learning (see Section 5).

The learning-based descriptors (orange) generally have a low priority and a low level of practice. They all cluster at the bottom left of Figure 1. Teaching for understanding (descriptor 2), however, is less evident in the class now than its priority level suggests it should be. Before NCEA it was marginally more highly ranked in practice than teachers' priorities would place it. While this may seem a curious finding, it is likely to relate to the way in which the wording of descriptor 2 was interpreted. If teachers placed the emphasis on the *content reduction* stem of the descriptor (to enable teaching for greater understanding to be developed) this response makes sense. The teachers perceive that they are not able to reduce content coverage as much as they would like, and indeed may see that the "coverage" issue has been exacerbated by NCEA changes (see Section 5).

Changes in frequencies of teaching practice pre- and post-NCEA

Overall, the responses show a modest increase in teachers' practice for the majority of the 20 descriptors. However, only two of them changed by a statistically significant amount.

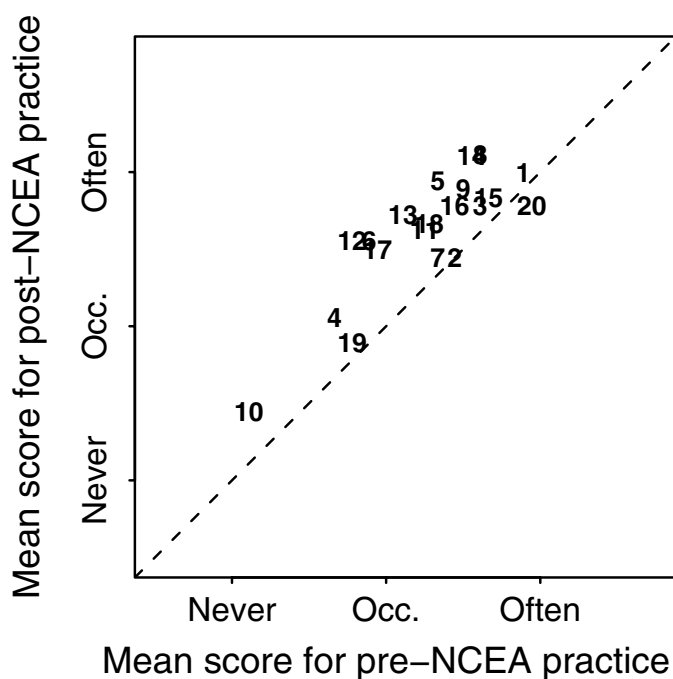
Figure 3 compares teachers' perceptions of the frequency of their practices before NCEA and the perceptions of the frequency of their current practices, based on the average score for each set of responses. Points on the diagonal line represent practices that have not changed in frequency since the introduction of the NCEA. The movement in score is shown by the vertical distance from the diagonal line to the descriptor number (these are also shown as the column labelled "S_a-S_b" in Table 11). Note that a section of the graph has been enlarged so that the spread of individual points can be seen more clearly.

Only one of the 20 practices was scored as being less common now than prior to NCEA. This was fieldwork, which was seen as slightly less frequent since the inception of NCEA.

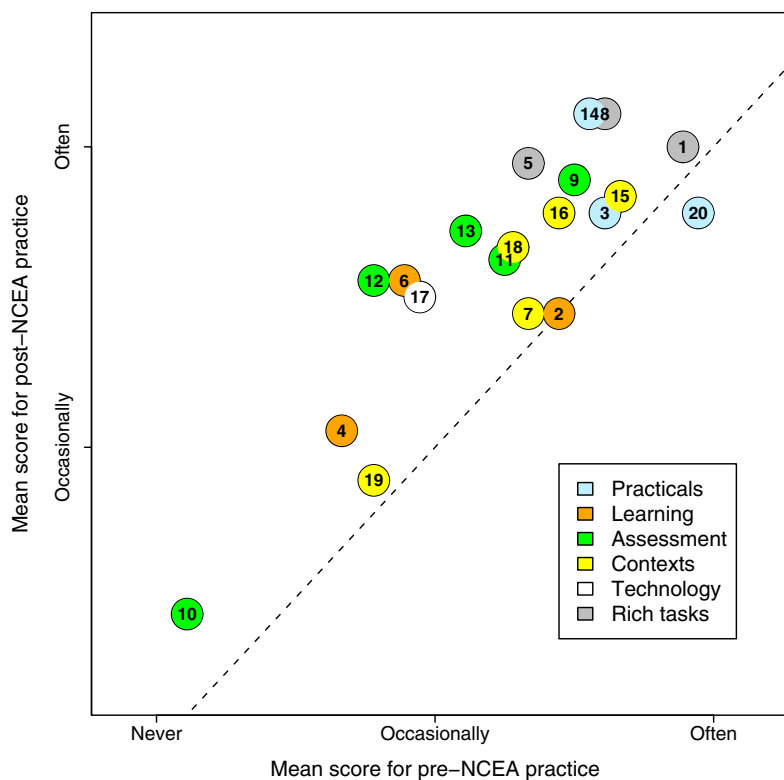
While the majority showed an increased frequency post-NCEA, this was statistically significant for only two descriptors (using the Wilcoxon signed-rank test for matched pairs, Wackerly, Mendenhall, & Schaeffer, 1996). To reach significance, *all* the teachers needed to be in agreement on the direction of the change of levels of practice.

Descriptor 5 (higher-order tasks), and descriptor 12 (using student understandings to plan learning) were both perceived to be happening more often post-NCEA implementation. Teachers are happy with the balance between current practice and how they prioritise their practice for these two factors (see how both lie on the diagonal line of Figure 1). That both these changes are regarded positively by teachers is borne out by their comments on curriculum changes in Section 5 and in Section 6, where aspects of formative assessment are discussed.

Figure 3 **Geography teachers' perceptions of changes in practice**



(a) Overall graph



(b) Detail of cluster of points

The home economics teachers' responses

The average scores and the ranks for the priority the home economics teachers assigned to each descriptor are shown in Table 12, along with their average scores and rankings of their frequencies of practice for both pre-NCEA and post-NCEA. As in Table 11 the final column of Table 12 shows the change in the average score pre- and post-NCEA.

Table 12 *Home economics teachers' perceptions of priorities and changes in practices*

| <i>Descriptor</i> | <i>Average priority (S_p)</i> | <i>Priority rank (R_p)</i> | <i>Av. Pre-NCEA (S_b)</i> | <i>Pre-NCEA rank (R_b)</i> | <i>Av. Post-NCEA (S_a)</i> | <i>Post-CEA rank (R_a)</i> | <i>Change (S_a-S_b)</i> |
|-------------------|---|--------------------------------------|-------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---|
| 1 | 8.8 | 1= | 3 | 8 | 6 | 3 | 3* |
| 2 | 8.1 | 5= | 3.4 | 6= | 5 | 14= | 1.6* |
| 3 | 8.2 | 4 | 2.9 | 9 | 5.33 | 10 | 2.43* |
| 4 | 7 | 13= | 1.5 | 17= | 4.5 | 16 | 3* |
| 5 | 7.8 | 10 | 2 | 13= | 5.2 | 12= | 3.2* |
| 6 | 8.3 | 3 | 2 | 13= | 5.6 | 6= | 3.6* |
| 7 | 7 | 13= | 2.3 | 17= | 5 | 14= | 2.7* |
| 8 | 8.8 | 1= | 4.8 | 1 | 6.6 | 1 | 1.8* |
| 9 | 8 | 7= | 3.8 | 2= | 6.2 | 2 | 2.4* |
| 10 | 5.1 | 20 | 1 | 20 | 3.1 | 19 | 2.1* |
| 11 | 7.2 | 12 | 3.4 | 6= | 5.6 | 6= | 2.2* |
| 12 | 7.6 | 11 | 3.8 | 2= | 5.6 | 6= | 1.8* |
| 13 | 8 | 7= | 3.8 | 2= | 5.4 | 9 | 1.6* |
| 14 | 8 | 7= | 2.6 | 10 | 5.3 | 11 | 2.7* |
| 15 | 8.1 | 5= | 1.6 | 15= | 5.8 | 4 | 4.2* |
| 16 | 7 | 13= | 1.4 | 19 | 5.2 | 12= | 3.8* |
| 17 | 6.6 | 18 | 1.6 | 15= | 4.2 | 17 | 2.6* |
| 18 | 7 | 13= | 3.67 | 5 | 5.7 | 5 | 2.0* |
| 19 | 6.8 | 17 | 2.4 | 12 | 4 | 18 | 1.6* |
| 20 | 5.43 | 19 | 2.43 | 11 | 2.72 | 20 | 0.29 |

* significant at the 5 percent level

Current priorities

The two highest priorities in home economics were given to two of the rich task descriptors (shaded in grey), with variety of tasks (descriptor 8) and providing stimulus materials that challenge students' ideas (descriptor 1) being given the top equal ranking. This can be seen by looking at which points fall furthest to the right in Figure 4. Use of higher-order tasks (descriptor 5) had a ranking of tenth, somewhat lower than that assigned by the geography teachers.

Learning-based descriptors (shaded in orange) were the next highest-ranking group with metacognition (descriptor 6) at third priority, and learning for understanding (descriptor 2) at fifth equal. Involving students in learning decisions (descriptor 4) had a more modest ranking of

thirteenth equal. It is interesting to compare this pattern with the geography teachers, who assigned descriptors for this theme a low priority overall.

Practical and research-based (blue), and assessment descriptors (green), were mainly ranked with an average priority. Each had one descriptor ranked very lowly. Both student choice in assessment (descriptor 10) and fieldwork (descriptor 20) were currently ranked as the lowest two priorities. In the case of fieldwork this is entirely predictable as it was added to the self-reflection sheet primarily with geography teaching in mind. (Nevertheless, in the next section, two home economics teachers also discuss the value of fieldtrips in their learning programmes.)

Descriptors of subject content (yellow) were generally ranked in the lower half of priorities except for descriptor 15 (public issues), which had a priority ranking of fifth equal.

Technology (descriptor 17) had a low rank of eighteenth.

Comparing ranks of priority and practice

The relationship between the rankings of post-NCEA priorities and practice is shown in Figure 4. Points that are near the top of the graph have the highest level of current use, while the ones near the bottom experience the lowest rank. Points on the right have a high rank on priority, whilst ones to the left have low priority. Points which are close to the diagonal line represent descriptors where current practice is close to the priority teachers give to these practices. It is also of interest to contrast this graph with the relationship between the rankings of pre-NCEA practice and teachers' priorities, as shown in Figure 5. This entails seeing how the position points relative to the diagonal line change between pre-NCEA (Figure 5) and post-NCEA (Figure 4). For example, pre-NCEA, descriptor 15 (public issues) was well below the diagonal line, whereas post-NCEA it is very close to it. That means that it has moved from a mismatch between priority and practice pre-NCEA to congruence between them. Discussion of "social determinants of health" (see Section 5) inevitably involves the discussion of public issues, so this pattern can be explained by curriculum changes that have been endorsed by the development of achievement standards that match this aspect of curriculum philosophy.

Figure 4 *Home economics teachers' rankings for priorities and current practice*

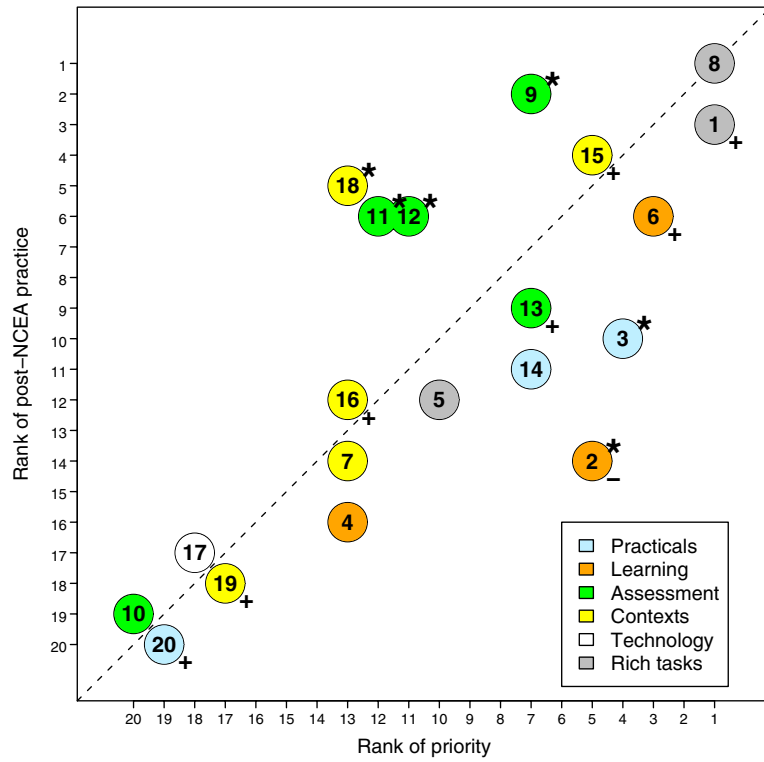
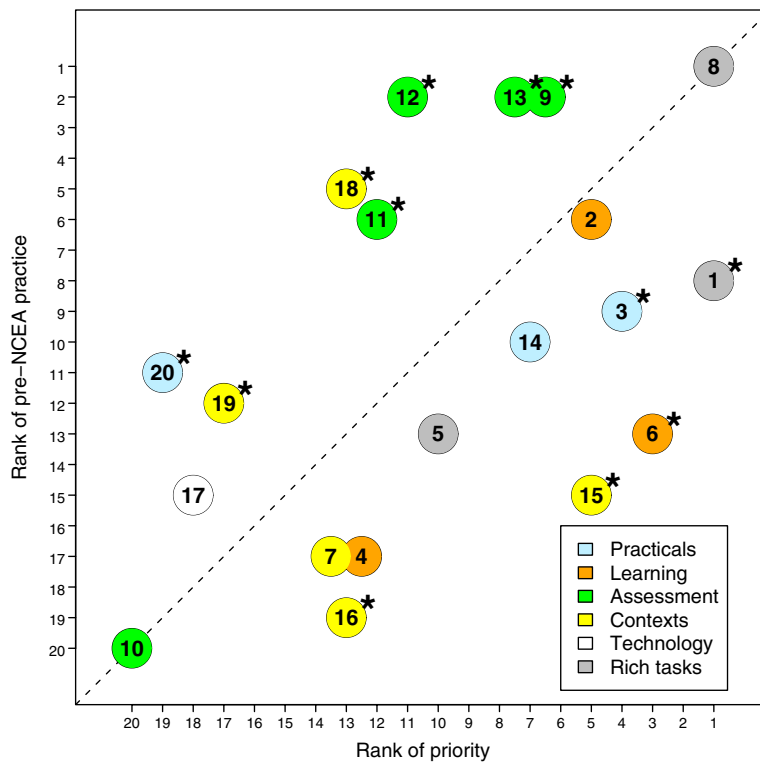


Figure 5 *Home economics teachers' rankings for priorities and pre-NCEA practice*



An overall comparison of Figure 4 (post-NCEA rankings) and Figure 5 (pre-NCEA rankings) shows that there is now a much closer match between priorities and current practice than there was pre-NCEA. This is evident because the points, in general, lie closer to the diagonal in Figure 4 than in Figure 5. Descriptors that are a substantial distance from the diagonal line in Figure 4 are numbers 2, 3, 9, 11, 12, and 18. Pre-NCEA a total of 12 descriptors were substantially different.

The three rich tasks descriptors (shaded in grey) all now have a close match between priority and practice. Prior to NCEA, however, providing stimulus material (descriptor 1) was substantially less common in practice than its top equal ranking in priority would suggest it should be.

For the three learning descriptors (coloured orange), the relative positions of descriptors 2 and 6 have reversed. Descriptor 2 (learning for understanding) is not being practised post-NCEA as much as its priority suggests it should. Again, this is probably better explained by placing the emphasis on the content reduction part of the descriptor. Like the geography teachers, home economics teachers perceive there is still too much content to cover in their courses. For descriptor 6 (metacognition), practice and priority are in balance post-NCEA whereas before NCEA this was not evident in practice as much as teachers would have preferred. Links to metacognition accord with some teachers' descriptions of the use of reflective learning journals (see Section 6).

For the practical or research-based descriptors (blue shading), fieldwork (descriptor 20) matched its post-NCEA practice and priority. Pre-NCEA, fieldwork was practised relatively more than its ranking on priority suggested it should have been. Descriptor 3 (planning and doing practical work) is being practised less post-NCEA than its priority suggests. This was also the case pre-NCEA but, as the next section explains, home economics teachers do feel they have to plan more carefully now to keep regular practical work in their programmes.

For assessment theme (green shading), three of the descriptors occurred more in practice post-NCEA than their priority suggests they should. These were using a variety of assessment methods, incorporating a range of levels, and formative assessment (descriptors 9, 11, and 12 respectively). This was also the case pre-NCEA. Ensuring feedback (descriptor 13) was roughly in balance between priority and practice post-NCEA, whereas it was practised relatively more pre-NCEA. Overall, assessment takes a higher place in practice than its priority suggests both before and after the implementation of NCEA, suggesting that the desire to assess less is not new.

For the context-based descriptors (yellow), all but one were well balanced between practice and priority post-NCEA. This is a marked improvement in the balance of priority and practice pre-NCEA. Figure 5 indicates that four descriptors were substantially over- or under-represented then compared with their priority pre-NCEA. Issues of interest/importance to students (descriptor 15) and local issues (descriptor 16) are now better balanced between the rankings of priority and practice than they were prior to NCEA. On the contrary, cross-curriculum connections (descriptor 19) had been more highly ranked in practice than in priority prior to NCEA, whereas this descriptor is in balance post-NCEA. Descriptor 18 (exploring values) was practised relatively highly compared with its priority both before and after NCEA was in place.

Technology has remained in balance between practice and priority both pre- and post-NCEA.

Changes in frequencies of home economics teaching practices

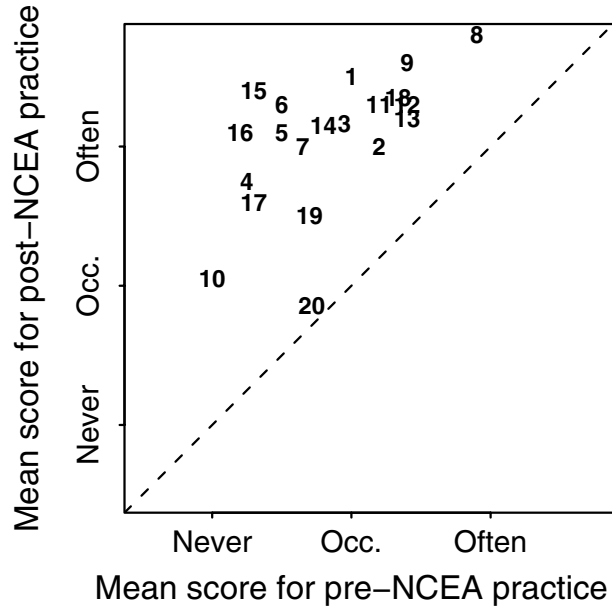
Figure 6 plots teachers' average scores for their perceptions of their practice pre-NCEA against their average scores for how often they do the same things post-NCEA. Points on the diagonal line represent descriptors of practices that the teachers perceive to be carried out as often now as they were before the introduction of the NCEA. Any movements in overall scores are shown by vertical distance from the line. This data is also listed in the column labelled "S_a-S_b" in Table 12.

In this analysis, all but one of the 20 practices fell above the line, showing that the home economics teachers perceive they do these things more often now than they did prior to the implementation of NCEA. The reported increase in practice is statistically significant (using a one-sided Wilcoxon signed-rank test for matched pairs) for all 19 of the descriptors above the line. Significance was reached because all the teachers uniformly reported increased frequencies of occurrence. As will be apparent in Section 5, they also all gave similar accounts of the nature of the changes they had made to their teaching practice.

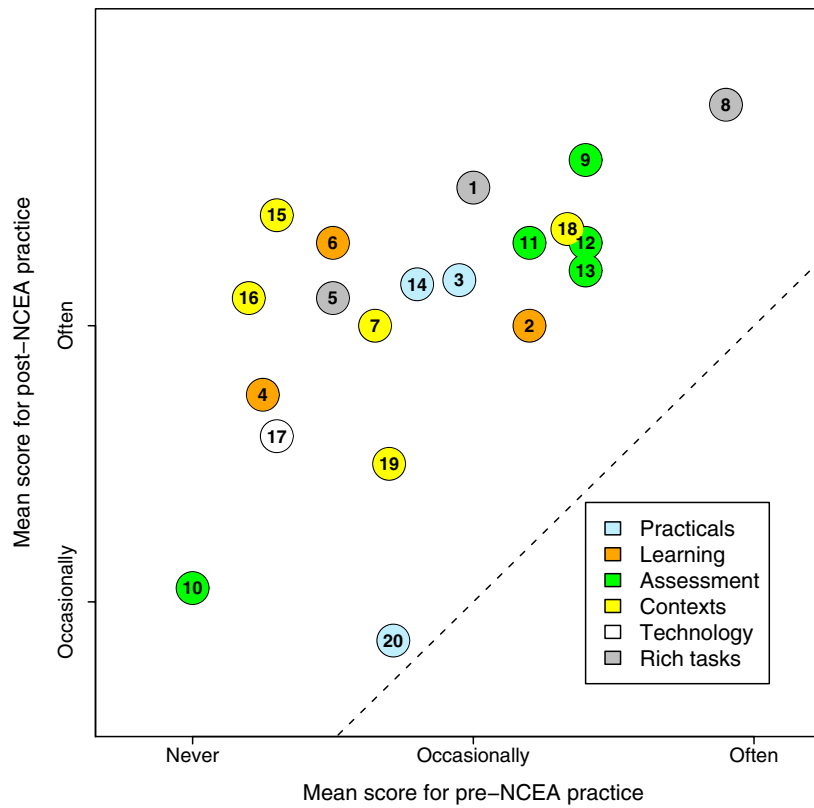
The only exception to this pattern is fieldwork (descriptor 20), where the frequency of current practice is about the same as it was pre-NCEA. As noted in the previous section, there is a good balance for this between current practice and its priority since NCEA has been introduced, reflecting the relative lack of importance given to fieldtrips by home economics teachers.

The magnitude of the changes in frequency for the 19 descriptors above the line is dramatic, with many of descriptors occurring only occasionally pre-NCEA whereas many were perceived as occurring often post-NCEA. It is probably not the case that all practices have increased in frequency as dramatically as teachers perceive, because classroom time is a limiting factor. However, the perceived extent of the changes indicates that teachers' approaches to the subject are now profoundly different to pre-NCEA practice, as are their perceptions of home economics as a subject.

Figure 6 *Home economics teachers' perceptions of changes in practice*



(a) Overall graph



(b) Detail of cluster of points

A comparison of these patterns to Shifting Balances One

The geography teachers in this project showed similar patterns in their overall perception of the extent of changes to the science teachers in the first round of the research (Hipkins & Neill, 2005). Both groups of teachers identified small increases in the frequency of use of most practices, although they had differences in priority/practice combinations.

For both the science and the mathematics teachers in the first round of the research, descriptor 11 (ensuring a range of levels of assessment) showed a significant increase in practice post-NCEA. This change was linked to teachers' awareness of the need to help students prepare for merit and excellence in their NCEA assessments. Several years down the track, geography teachers have not accorded this such a high change ranking (but we have no way of knowing if they would have done so several years ago). Rather, of the assessment descriptors, the geography teachers perceive they are using the formative assessment practice of planning lessons around students' understandings (descriptor 12) more often now. This change is further explored in Section 6. Although we have no way of knowing if the geography teachers would have made the same ratings 2 years ago, this emphasis on at least one aspect of formative assessment is encouraging, given the recommendations we made last time about the need for professional development in this area (Hipkins & Neill, 2005).

In the first round, science teachers perceived they were drawing on students' interests significantly less often post-NCEA. While the pattern of responses from geography teachers did not drop below the diagonal line (see Figure 3) it is worth noting that this descriptor did register as something these teachers perceive they now do less often than they want to. Both geography and science teachers attributed this to a relative increase in content rigidity that sees them having to "cover" more for each standard, but within a narrower range of topics overall. Last time we noted that mathematics teachers also perceived there had been a "narrowing" of their curriculum. Against this trend, the marked changes in the taught and assessed home economics curriculum are very interesting. We explore these changes next.

5. Impact of the NCEA on the taught and assessed curriculum

Changes in home economics as a subject

All of the home economics teachers said the subject had changed dramatically. One noted that the NCEA and the new curriculum were implemented at the same time so the change was a “double steep learning curve”. (Home economics now draws its subject approach from *Health and Physical Education in the New Zealand Curriculum*.)

They all described a move away from some of the traditional subjects they had taught, especially “home management” subjects such as laundry skills, towards the socioecological approach of the new curriculum. One teacher commented:

It’s about what people can do to make their lives better. The curriculum at the senior end is not like anything we’ve done before in its approach.

All saw this as a wonderful, yet challenging change. One said she still felt inadequate to teach the new approach properly, and she wished she had “a degree in sociology”, but she was learning all the time and getting more confident. Another teacher described the shift away from a “science-based” curriculum to a more socioecological one that challenged students’ assumptions. For example, nutrition was no longer taught in such fine detail, but only to the extent needed to make good personal food choices. Even this was challenging, she said, because nutrition research is changing so fast that it is hard to keep up. These comments were reiterated by another teacher who commented:

When I first started teaching, it was like a factory, it was easy, less complicated, the kids all did the same. Now there’s a stronger sociological perspective of ‘Why eat that?’, ‘Why choose?’, ‘How does it affect hauora?’, ‘How could you serve it/adapt it?’ Now there are so many choices.

Reflecting the broad sweep of the changes the subject had undergone, another teacher said:

Home economics went through a winterland as a subject. Sixth Form Certificate severely disadvantaged our home economic students. Many schools jumped into chef and waitressing training. I don’t agree with schools doing this. Since the Health and PE curriculum came in, I’m teaching that curriculum almost completely. It is not well-resourced for home economics though [no textbooks]. We need funding for resourcing. When the technology curriculum came in there was industrial action by PPTA, so there wasn’t a lot of training for

the implementation of senior technology. In the textiles area, people have embraced the technology standards because there is more of a link. Food technology standards are not practical in schools. They are not appropriate and teachers weren't trained. They need to be taught in a science lab. I personally don't value the learning outcomes for the technology standards at senior level. It was industry pushed and had a political agenda.

Several teachers mentioned that they had reduced the overall number of topics they taught in favour of providing more in-depth coverage. This was considered especially important for developing skills that were needed by students to get excellence in achievement standards. For example one teacher had removed a Year 12 unit on food security to allow more time to give students a good background in the other topics, and to allow time for consolidating the main points and providing more interactive activities. In contrast, some topics had been expanded. For example one teacher had previously taught "high energy needs" in one lesson but now the students completed a whole unit on this topic.

Teachers commented that home economics had now focused more on critical thinking skills, attitudes, and values, bigger picture thinking, the consideration of interrelationships between various topics, and on topics that were more applied and "cutting edge". Skills in these areas were seen as necessary for gaining merit and excellence in achievement standards assessments.

Notwithstanding what they saw as this huge shift, all the home economics teachers clearly still valued the traditional practical aspects of their subject. They believed that students found practical food-related activities motivating and enjoyable and they all looked for ways to keep a space for these in their curriculum. All said they contrived to keep one period per week at Level 2 for practical cooking activities, even though the overall curriculum had become much more "intellectual". In line with this overall shift, the emphasis of practical work has changed. One teacher commented that the skills previously taught did not necessarily transfer easily to new contexts because they were so situation-specific. She said the new focus on critical thinking had changed that. For example, rather than teaching students to prepare one dish efficiently, they now learn more transferable skills through activities such as developing recipes and evaluating them.

The nature and extent of these curriculum changes seems not be widely appreciated as yet. One teacher noted that many parents and school deans still saw home economics as "cooking and sewing" and that impacted negatively on numbers of students choosing the subject in her school. Another teacher expressed her frustration that home economics is not perceived by policy makers parents, students, or deans as an academic subject:

It's extremely irritating that parents and other staff think it's easy. I really push my kids to get through. I get on the kids' case to hand stuff in and say 'If you want to be a winner, you'll have ticks beside your name.'

Some teachers noted that aspects of the wider education policy context continue to contribute to the "not academic" perception of home economics. These included the omission of home economics from the Vice Chancellors' list of subjects that are taken into account for university

entrance, and the fact that no Scholarship standard and examination has been developed in this subject.

Course modification by the selective use of standards

Perhaps because they were so happy with their “new” subject, the home economics teachers did not discuss selective changes to mixes of achievement and unit standards nearly as often as did the geography teachers. There also does not seem to be the sense that changes to “curriculum coverage” must be justified, as tends to prevail in geography. Yet home economics teachers can select from a wide range of food industry unit standards as well as full suites of achievement standards and all of them offer courses that are selective mixes that they see as best meeting the needs of each group of students.

One home economics teacher said she had not included two Level 2 achievement standards in her course (care provision and accommodation) because they were “not why our students walk in the door”. She saw the standards related to food and nutrition as more relevant and hence interesting and motivating. All these teachers were adamant about not using the technology suite of standards (in particular food technology) because they thought these standards did not reflect the intent of home economics as a subject. There had also been difficulties with workload issues during the time of the implementation of the technology standards. This meant that most home economics teachers did not take part in professional development for their implementation.

Changes in teaching practice: Home economics

The home economics teachers all stated that there had been a shift in emphasis to activities that developed students’ literacy and critical thinking skills. Several mentioned that this intense focus may be able to be eased back in years to come because these skills are now being taught in Years 9 and 10, so in future students may arrive in the senior secondary school with better literacy learning skills already in place.

Most mentioned “less chalk and talk” and they described a range of interactive teaching and learning strategies that they were obviously enjoying using. The teachers were aware, however, that some students were not quite so enthusiastic. Several described pressure to “just tell us the answers”, or resistance to group work when this was not common in the overall school culture.

One teacher described feelings of being “stifled” by the prescriptive nature of the achievement standards because she wanted to be even more creative in her teaching than she very evidently already was.

Learning journals

Three of the four teachers in one geographic area had introduced learning journals and the fourth was considering doing so the next year. This strategy had been demonstrated by Beacon Schools lead-teachers. One of them described a process of circulating journals in class, with students highlighting passages they found very clear, or helpful for their learning. These highlighted sections were then shared with the whole class, and sometimes edited to make one really good model. In this way all the students could learn to use the journals to reflect on their learning. Another teacher described an emphasis on critical thinking when writing. For example her students were sometimes asked to rehearse arguments and focus on providing evidence for the claims they made. This teacher said that most activities were now posed as problems that required thought and challenge and she “loved it”.

Values clarification

All the home economics teachers agreed that teaching and learning about values was an important, if challenging, part of their new curriculum. Two teachers in higher decile schools spoke of the challenges of encouraging students to think outside a narrow range of “white middle class” values. The teacher in the private school described several fieldtrips she used to help her students move past a “blaming” approach to those less fortunate than themselves. She had taken her students to visit a home economics class in a nearby decile 1 school. Both she and the teacher in that school spoke of this as a very valuable learning experience for both groups of students. The private-school students had also heard first hand about the work of the local foodbank, and had visited a childcare centre for less privileged children, where they had helped out. The teacher in the decile 1 school noted the learning challenges she faced because her students’ values around money and nutrition were so different from her own. However they did share family values in common.

Taking critical action

The “critical action cycle” is a feature of the health and physical education curriculum and several of the home economics teachers described ways they used this to support students to actually do things that changed some aspect of their wellbeing. For example, students in one school were encouraged to identify barriers and enablers to food hygiene in their homes and to make an action plan to address issues that arose. Another teacher and her students identified a lack of fresh food in the diets of many students whose parents worked long hours. They planned simple meals with fresh food, shopped for, and cooked these meals.

ICT use

Two teachers described routinely using a “Food Works” ICT package that provided quick and easy analysis of the nutritional content of different foods. Using such resources had provided

support that allowed them to move away from a focus on the details of nutrition, instead simply using nutritional information for decision making. Several home economics teachers taught students to use Index New Zealand (INNZ) when researching and all valued the internet for up-to-date information for themselves, even if they had access problems for their classes (as several did).

Changes in geography as a subject

There have been shifts in emphases in geography as a school subject. Some teachers spoke of the greater emphasis on skills and said that there was less content now, but more emphasis on the thinking required by students. Commenting on the shift from content recall to interpretation one teacher noted there had been “big calls for change” in the subject.

One teacher described what she saw as an unfortunate expansion of the curriculum as a direct consequence of the way the achievement standards were initially devised. Because geography had a syllabus rather than a curriculum, and this had not been recently revised, the standards developers took the opportunity to modify the balance of topics from the previous examination prescription to update the subject. For example, the School Certificate examination had included a Section D, worth just 5 percent, that became two new standards, each worth three credits (global patterns and processes, and a contemporary geographic issue). They now constituted 25 percent of the new course yet nothing had been dropped to make way for them. Another teacher who also mentioned the problem of building the NCEA initiative on a “1986 curriculum” believed that some of the expansion in content could be attributed to the extra detail slipped into explanatory notes that accompany the standards.

Several other teachers also mentioned this “widening” of the curriculum but said that they had deliberately chosen to focus more on New Zealand content. Two teachers commented that now there was more emphasis on cultural geography and values and less emphasis on physical geography than previously.

One teacher observed that geography *per se* had changed in recent years from a problem-orientated to a solution-orientated discipline. In his view something of this shift was reflected in the way topics were framed in achievement standards—for example earthquakes are seen as “events” rather than “hazards” and there is a focus on managing their impact on human activities. Several teachers noted that there is now more emphasis on the analysis of perspectives and viewpoints. One thought these were hard concepts for students (see discussion of values that follows).

One of the younger geography teachers expressed a strong desire to see the subject, and the resources that support it, updated. She said that Monsoon Asia no longer has a youthful population to the extent that it did when the topic was devised, and she found resources concerning Africa to be out of date. (To illustrate—she had her students compare the up-to-date

CIA Web statistics for HIV death rates in Africa with the now dated information in the school textbook, and used this experience to discuss the limitations of paper-based resources in rapidly changing times.) She wanted to see “more dynamic” topics introduced and gave as another possible example the possible replacement of horticulture with viticulture.

Course modification by the selective use of standards

There has been some comment in the media that teachers choose the achievement and unit standards they will offer based on their perceptions of the ease with which students will gain credits, and at the expense of considerations of curriculum coherence. That was not our experience in the conversations with these experienced *Shifting Balances* teachers. As will be apparent in what follows, these teachers have carefully considered reasons for their choices of assessment instruments.

Some teachers expressed a preference for internal assessment. For example, one said it was “less capricious” than external assessment, and students could be offered better support to achieve the standard. This same teacher noted that dropping one external standard would allow students more time in the examination to demonstrate their learning.

Dropping standards

While some teachers have chosen to drop standards that they consider take a disproportionate amount of work, we found that they tended to be creative in finding ways to merge the content of the dropped standards with other aspects of their courses. For example, three geography teachers who had dropped the Level 1 population standard said they used this as the context in which they helped students develop their geographic skills to be internally assessed in achievement standard 1.4. The time freed up allowed them to focus more on “skills/ideas/investigative approaches”. Three other schools had also dropped the population standard that focuses on Monsoon Asia because of the large amount of content coverage needed. They had chosen to address population issues from a local perspective.

One of these teachers felt forced to choose between two internally assessed standards at Level 3 because she found in the first year of implementation that the students were “beside themselves” with the heavy workload. For the second year of Level 3 implementation (2005) she had dropped the standard that assessed global patterns (3.7) and reflected that she might regret this because it was actually comparatively easy. However she felt that developing good research skills was more important.

Merging standards

Merging two standards into one topic was another strategy used to manage heavy workloads. It is similar to merging a dropped standard into another topic, but both aspects are still assessed. For example, one geography teacher combined the Level 3 research and planning standards (3.3 and

3.5) to create a research project on a local area topic. She was delighted with the standard of some of the projects she had received, and noted that in her school the impact of a teacher-librarian with a personal interest in research had created a uniformity in expectations of high research standards across the school. She also combined 3.1 (geographic environment) with 3.6 (contemporary issue), noting that there was a helpful textbook that modelled the same combination.

Replacement of achievement standards with unit standards

One geography teacher was very keen to reintroduce a clay modelling activity she had used to assess understanding of geographic landscape features in her Sixth Form Certificate course. She had found a unit standard that allowed her to put this assessment activity back into her course and this was one of the evolving changes that meant she was now “feeling much happier” about the introduction of Level 2 NCEA. Two externally assessed Level 2 standards had been dropped to make space for this unit standard and for other favourite interactive teaching and assessment strategies that this teacher valued so highly. She noted that the key ideas of the standards she had dropped were included in other parts of the course so they were still covered. She also commented that the very successful mix of teaching and learning activities she used had developed slowly over the years of her teaching and she compared that gradual process to the rapid timeframe for the NCEA implementation. In her view, a more incremental change process would have allowed creative teachers to keep the “wonderful” things that they already did intact.

Another teacher had replaced the Level 1 population studies achievement standard (1.2) with a unit standard that covered the same topic. We often heard about the disproportionate amount of content in this achievement standard for its credit value, and two of the teachers noted that failure rates were very high in the first 2 years of Level 1 NCEA assessment.

When students choose to drop standards

One geography teacher expressed reservations about the selective dropping of standards by the students⁵, even though she had advised them to select and rationalise to manage their heavy workloads. Some had dropped external standards for which they had been entered, which pushed up the school’s “not achieved” rating. But her main reservation was that students needed a good balance of both physical and human geography, which could be upset by selective dropping. She compared the situation to “playing for pleasure versus performance” and emphasised that students needed to hone their skills in all areas of the course.

⁵ Note that this was not a question we asked. Had we done so, we would doubtless have heard more about this practice, which NZCER’s Learning Curves research shows is of concern to teachers.

Changes in teaching practice: Geography

Unlike the home economics teachers, geographers are feeling the pressure of an overfull curriculum since the NCEA implementation (see above), and say this is limiting their ability to be creative in their teaching. As one said, “there is no time for tangents”. Two noted that they had become “more efficient” at providing information, to free up class time for other activities. Several noted the time needed to coach students in the meaning of assessment questions, with information-dense phrases such as “chosen natural geographic environment” needing careful unpacking.

Several teachers did describe changes to their teaching practice that introduced more opportunities for critical thinking and interactivity. However one was adamant that this had happened despite the NCEA, and was a result of her recent professional development in critical thinking skills. Another also attributed some changes she had made to professional development (in the transfer of learning), but also noted this had reminded her of many strategies she had learnt in her teacher education. She said she had gradually put these aside as she settled in to her career. Now, a few years down the track, she was revisiting the learning of her initial teacher education and enjoying widening her repertoire of classroom activities such as mind mapping, concept mapping, and use of flash cards for revision. This teacher felt the NCEA had “made the learning focus clearer” which had supported this revision of her teaching practice, and that preparation for “merit” and “excellence” encouraged the use of higher order thinking skills. She said she would be “devastated if it goes”. This teacher also described a range of discussion and debate strategies she used to encourage students to focus on supporting the arguments with evidence. Against the national trend her students had done very well in the Level 2 external assessment of disparities and she felt that this topic was one they really enjoyed. She said the provision of evidence to support claims had always been a feature of geography but that the NCEA had strengthened this focus.

One teacher described her sadness at losing the freedom she had to assess creatively for Sixth Form Certificate. She had resisted introducing Level 2 NCEA until it was compulsory. For Sixth Form Certificate she had used the ICT programme SimCity, together with a fieldtrip, to assess urban development, clay modelling to assess landscapes, a simulation to assess inequalities, and a video study to assess global research skills. Other activities she had used for assessment in the past had included the Quaketrackers website, drawing a cartoon and explaining its values, and producing a game to teach a concept. However, as already noted, this teacher was beginning to find ways to put some of these good things back into her programme now the NCEA was becoming more familiar.

Fieldtrips

These geography teachers value fieldtrips and have generally managed to keep them in their programmes, despite what they see as pressures to keep students in class. One noted the tension that while fieldtrips are mandatory in the syllabus they are not so obviously assessed as in the

past. This teacher now uses her Year 12 fieldtrip as a preparation for physical geography and noted that its current purpose was to increase understanding rather than to develop field research skills. She expected to get better at reintegrating these aspects as the NCEA became more familiar. It was evident from his description of activities that another teacher used a fieldtrip to the same area for much the same purpose.

Values clarification

All the geographers agreed that this was an important aspect of their subject—both before and since the NCEA implementation. Two noted that the assessment of perspectives was now actually incorporated into at least one achievement standard at each level (1.6, 2.6, 3.6). Notwithstanding this, one of these teachers felt she spent less time exploring values now, because the tightly prescribed content focus of NCEA geography prevented her picking up issues as they arose, for spontaneous discussion of values and other related aspects. Two others were more positive, particularly about the explicit inclusion of Māori values, which are seen as particularly important for environmental issues. One teacher noted he used values discussions to “shoot down misconceptions”—for example, about the size and poverty levels of Asian families.

ICT use

Three of the four teachers in one area described ways they make ICT use integral to their programmes. Two of these teachers used the internet to help students develop a more critical awareness of the ways in which evidence can be constructed and presented. For example, one teacher used the Statistics New Zealand website in conjunction with the United Nations’ “State of the World’s Children” website to compare and critique different types of indices for national economic and other statistics. As already noted, another teacher used the CIA statistics website to develop students’ awareness of the speed at which textbook information can become outdated in rapidly changing times.

Opinions were divided over the use of Geographic Information Systems (GIS). One younger teacher was pushing for their more widespread use in his school. He tried to include at least two lessons at each year level where the GIS software was used. His focus was on developing students’ awareness of ways this information tool is now used by geographers as their “basic mapping package”. Another teacher had tried GIS but found it too time-consuming.

The teacher who used GIS was also keen to fundraise for an electronic weather station. His school aims to become an ICT lead-school and he saw this as a way of incorporating real physical geography research into his programme. With the necessary data loggers, he saw the possibility of his students contributing to international research such as that co-ordinated by the American “Globe” programme.

One geography teacher who had ready access to a data projector commented that PowerPoint allowed her to bring a wide range of visual images in her lessons and these added a valuable dimension to discussions.

Independent research

Despite indicating that students were learning to use research tools more often than their priorities would indicate (see Section 4) all the teachers said they valued research. For example, one teacher said students needed to learn to integrate information from a wide range of sources and you “couldn’t be a good geographer” without these skills. Several teachers mentioned the importance of support from the teacher-librarians in their schools.

One teacher said she felt research was not as “embedded” in her programmes as it had been pre-NCEA. She also felt the specification of levels of support for students (with direction at Level 1, support at Level 2, and consultation at Level 3) was limiting for the most able students. Previously these students had been given “very open” research assignments to run with.

Several geography teachers commented that they could not assume that all students had access to research materials, or the internet, out of school hours. Consequently, they did all the necessary research activities in class. This means that research tasks now take up a considerable proportion of class time. One school provides a homework area with internet access in their library for after school use.

Geography teachers generally agreed that initially the standard for “achieved” was probably too low for the research standard at Level 1. This had meant some students did not have sufficient skills to cope with some of the Level 2 standards. Conversely, excellence in the geography standards was perceived to be set at too high a level. This was borne out in the Level 1 results for 2004, where approximately 1.6 percent of students got excellence in Level 1 geography research⁶.

⁶ The percentage of passes at excellence level varies considerably between standards and subjects. This is at the low end of the range.

6. NCEA-related assessment issues

This section discusses the issues that have arisen as a result of implementing Levels 1 and 2 NCEA in home economics and geography. It answers research questions 5 and 6 but goes beyond the initial scope of these questions to also discuss assessment practices for formative and summative assessment, moderation and resourcing issues, and the impact that changes in practice have had on teachers and students.

Almost all of the teachers felt that assessment now takes more of their time than pre-NCEA. Reasons include the time taken for a range of activities such as reassessment, the gathering of resources, especially for research tasks, getting tasks ready for moderation, meetings and professional development, along with marking and electronic data entry. (This was seen to take more time at Level 2 than had Sixth Form Certificate for example.)

Use of formative assessment

In Section 4 we reported teachers' perceptions that some aspects of formative assessment practice had increased in frequency post-NCEA. Descriptors 9 (using a variety of assessment methods at different points in a unit), 12 (collecting evidence of understanding early in a unit), and 13 (ongoing feedback about next learning steps) all happen more often now than they did pre-NCEA. We found this pattern for both subjects.

All teachers saw value in formative assessment. There was a shared belief that students learnt from getting feedback on their progress, whether from the teacher, their peers, or through self-assessment. The following comments have been organised into two clusters. Sometimes when teachers spoke of formative assessment it was clear they were thinking of practicing for summative assessments. We noted this interpretation of formative assessment as “assessment for assessment” in the first round of *Shifting Balances* (Hipkins & Neill, 2005) and we found it again this time. However, this time, there were also more comments made about formative assessment as “assessment for learning”.

Some teachers commented that they were reluctant to hand more control of formative assessment over to students. As one geography teacher said, it was her responsibility to get the students to where she knew they had to be before the summative assessment.

Formative assessment as preparation for summative assessment

Several activities mentioned as “formative assessment” were intended to give students essentially (practice) summative feedback on what they had learned. Although it could be said that, by implication, students can work out what they still need to learn, the focus is not on next learning steps. One example of such a practice is “quick ten” revision tests at the start of each lesson or at the start of a week.

Overall, teachers felt that “formative assessment” helped students to focus on what was required and helped them to plan, particularly for research and writing assessment tasks. It was a vehicle teachers used to give feedback on what students needed to work on or to give them a “pat on the back”.

One of the most common comments made in response to the interview questions about “formative assessment” was that giving students the opportunity for lots of practice at writing, with accompanying feedback, helped students to achieve well. This especially applied to activities where students were required to critically evaluate content or an issue, in both home economics and geography. Practice at map drawing was considered important in geography.

All of the teachers mentioned the value of giving oral feedback. They also emphasised the importance of having students check their work, both informally and formally, before they handed written work in. Teachers use various ways to help students with this, including checklists, brainstorming to organise information, group feedback, task sheets that specifically describe intended learning outcomes and feedback linked to these learning outcomes, interactive co-operative activities, and the development of action plans. Literacy activities to help students write well were commonly used by these teachers.

One teacher commented that using a range of ways to enable students to give feedback to other students had shifted her workload. Rather than spending a lot of time giving impression marks, she was now spending more time on developing resources for group activities. Several geography teachers used parts of standards as the basis for class activities they then had students peer mark. One home economics teacher wrote mock answers and had her students critique these to analyse what was missing. Class discussions about various ways to answer questions, and to identify “good answers”, were considered important.

Teachers reported that using a range of “formative assessments” helped students to be better informed about what was needed in terms of quantity and quality of answers for achievement standards. “Unpacking” the meaning of the words (especially verbs) used in achievement standards tasks allowed students to plan answers and have a better understanding of what complete answers would include. Teachers described creative ideas to help students “unpack” the standards. For example in one school, a copy of the standard was placed in the middle of an A3 page and key words highlighted. Students wrote what they thought these terms meant in the space around the standard, and then discussed their various interpretations. This activity was carried out with the whole class as a refresher before students completed the assessment tasks.

Formative assessment to determine next learning steps

Some teachers acknowledged that their increased use of formative assessment was related to professional development in programmes such as ABEL (Assessment for Better Learning). Similarly, there has also been a lot of sharing of classroom activities and assessment tasks between home economics teachers in the Beacon Schools network, and through HETANZ. This sharing has helped teachers to have a wide range of formative assessment resources for immediate use.

Fewer teachers than in the earlier round of *Shifting Balances* research mentioned the use of pre- and post-tests as an example of formative assessment. However one geography teacher felt there was pressure to use such a process (which she wanted to resist) because of a perception that it could provide data for the school's planning and reporting framework. Teachers commented that they preferred to use other ways to find out what students knew.

Three of the 10 home economics teachers said students' *journalwriting* was an important means of formative assessment. One said she reframed the reflective tasks for each episode of writing so that they would require something new. Typically students receive both written and verbal feedback on their journals. A means of peer-assessment of journal entries has been described in the curriculum section. However, another teacher commented:

I have used journals in the past but stopped because they were time consuming. If you don't dedicate class time to it, they don't do it. If you don't value it, they don't. But reflective learning is very valuable. Last year I gave them the learning outcomes and got them to rank how well they thought they knew it, but they were inaccurate in their assessment of their ability. This was a negative activity. (Home economics teacher)

Notwithstanding these comments, this teacher went on to comment on the value of peer- and self-assessment, and gave other examples of ways in which she requires students to "have a conversation" with someone to check on understanding. Another home economics teacher also commented that she used to get her students to keep portfolios of their work but has since abandoned them because they "seemed to have no purpose and so the students did not value them".

Two home economics teachers said they used some *diagnostic tasks* to make an early check of students' understanding of complex ideas and just "to see where they are at". However both of them, along with one of the geography teachers, noted that the available time to teach the curriculum is so tight that reteaching is difficult to fit in. As one of them said, "the higher the stakes, the tighter the schedule". This geography teacher was particularly aware of formative assessment issues because she had been delegated to research these on behalf of the whole staff. The school was investigating ways to report "next learning steps" to parents.

The use of learning journals and other formative strategies: An example

The following is an example of a reflective journal task assigned to Level 2 students by one of the home economics teachers.

Myths and assumptions surrounding food security

How have your beliefs and attitudes changed?

Using the graffiti sheets from last lesson complete the following journal entries for FOUR assumptions/beliefs.

Use the sentence starters to frame your answers.

My classmates and I used to believe that:

The evidence we found showed that:

This means:

An example is:

Reference:

The following comments are illustrative of student responses to this task⁷. The heading for each response comes from the graffiti sheet task from the previous lesson. (Students move around the room and respond to starters on large sheets of paper by writing their spontaneous thoughts or graffiti.)

“No need to worry about poverty — as long as we get the economy right.”

My classmates and I continue to believe that this statement was false and the evidence showed us that we were right: despite economic growth, poverty in New Zealand has doubled. Poverty has doubled between 1987–1988 to 1992–1993 and the inequalities increased even though we were in an economic boom. This means that even if the economy is right poverty isn't going to go away. Reference: What some people are saying about poverty in New Zealand. [The Joint Methodist Presbyterian Public Questions Committee. The New Zealand Council of Christian Social Services, 1998.]⁸

⁷ The teacher explained that she would like to share some anonymous responses with the researcher *before* students began to write. Students who were happy to share signed their work to this effect. Names were removed before the researcher saw the work. Only six students were happy to share—possibly the more confident students in the class.

⁸ This student did not include the full reference—it has been added from another student's work so that readers of this report have a more complete picture of the source.

“If only they didn’t keep having babies.”

I thought the statement was false but most of the class thought it was true. The evidence we found showed that in fact most low income families are not large and that 80–90% of people on unemployment, sickness and invalid benefits did not have children. This means that the statement is wrong but people still continue to assume it’s right and the politicians keep making statements like these. Families on a benefit have an average of 1.8 children. Low income working families have slightly more children than families mainly reliant on benefits — but still average only 2.1 children. Reference: Statistics New Zealand.

The teacher also commented on a formative *think-pair-share* task she had used at the beginning of the food security unit. Students had been asked to think about and then discuss what they thought the term “food security” meant. She commented that “95 percent of the class had no idea, beyond padlocking the family fridge”. The snapshot of students’ thinking shows that their view had already widened. Other journal entries referred to money management challenges when income is insufficient for basic necessities, the role of the World Bank in policy making, and access to food banks and benefit entitlements. Interestingly, all students whose journal entries we saw had commented on issues where they had *not* changed their own point of view, even if they thought others in the class had.

The teacher also commented that students’ writing skills had improved greatly since the start of the year. With their early journal entries she had been “lucky to get one or two sentences”. She said she was still learning about how to structure the tasks, for example with sentence starters as in the task above, so that students were able to demonstrate their thinking in ways relevant to the question asked. She had learnt she needed to make class time for journal writing, both so that students could discuss ideas and because many of them worked long hours after school. She noted that students’ journals provided rich evidence of their learning, but she still required them to produce formal written accounts in the end of unit assessment tasks because journal entries were often done in pairs and NCEA assessment had to be individual.

One home economics teacher described a formative *peer-assessment* that the students had really enjoyed. The class was divided into two groups, with one carrying out a practical food preparation task while the other group observed their use of a range of hygiene practices, working from a check-sheet to which only they had access. When the group roles were reversed the check-sheet was changed, so that a new range of practices was observed and subsequently discussed. The teacher said the students “learnt heaps” from the peer feedback and this laid a good foundation for the work to follow. Several other home economics teachers mentioned their use of self- and peer-assessment sheets for food plans. One of these still checked these sheets herself but said that it only takes 30 seconds to mark one of these food plans now because the use of self- and peer-checking had reduced the time needed to mark students’ work.

One geography and one home economics teacher described using “*what I know, what I need to know, what I have learnt*” charts in their classrooms. Several other teachers used a skills list and asked students to self-check which skills they thought they needed to work on. This was considered a difficult task for some students perhaps because they had not received enough feedback about some of the skills. Despite their usefulness, it was noted that these strategies needed to be used sparingly otherwise students became bored.

One home economics teacher described the use of *action plans* with her Level 2 class. When an internally assessed task was first assigned, students analysed the task, and prepared plans for the learning steps they would need to undertake, then had these checked. At each stage of the learning they evaluated progress against their plan before they went on. Similarly, one geography teacher described the use of *research logs*. These served the same formative purpose, but also became evidence that was used when the summative assessment judgement of the final research product was made.

Preparation for internal assessments

Preparation for internal assessment events clearly occupies a good deal of classroom time in both subjects. Teachers described frequent use of practice tasks and, sometimes, separate elements of tasks. They put considerable energy into teaching students to interpret the intention of assessment-specific terminology such as “explain” and “comprehensively”. Some described the use of assessment schedules to collectively “mark” exemplar tasks in class, so that students would get a better understanding of how to carry out the requirements of the task. Others talked about assisting students to identify exactly what was required and what skills were needed. For example, two home economics teachers outlined the use of a hamburger analogy for building skills. They asked students questions to consider what constituted the “bun”, what the “meat”, and so on.

Only one geography teacher said he never did a “practice run” but required students to do assessment tasks “cold”. This was because the curriculum was too crowded to take the time. At the opposite extreme one home economics teacher described taking up to five lessons to build up the actual assessment event, progressively building students’ confidence in the various aspects of the task they would face. Three geography teachers said they used open book tests, allowing students to bring their own worksheets and notes into the assessment, but not textbooks.

With the exception of standards that assessed research or practical skills, most assessment required a formal written task, carried out under examination conditions in the classroom. Most teachers said they could not vary from this and still vouch for the authenticity of the students’ work. However a few teachers did discuss opening up assessment to different types of tasks. Some verbal presentations are being used for internal assessment tasks, although several teachers mentioned that there were time constraints on this form of assessment, especially with larger classes. Even when this type of assessment activity was used, teachers typically followed these up with a formal written analysis.

Four home economics teachers spoke of requiring real actions in the critical action tasks. Two of them said they used a range of tasks to assess the students' action plans. These included pamphlet production, posters for health promotion, video interviews with members of the community, photographs or videos of practical demonstrations, and the production of storyboards. One geography teacher was considering using a web-building exercise for assessment at Level 3, but had yet to iron out the practicalities.

Practice related to resubmission remains uneven. Some schools allow it, some do not. One school allowed for reassessment if a student had nearly reached the standard and then resubmission if they needed to begin again. However, resubmitted tasks that *still* did not meet the standard when they were assessed could not then be reassessed. A number of teachers from both subjects said they allowed oral resubmissions in situations where it was clear that students could have met the assessment criteria but for some small mistake or chance event. For example, one home economics teacher said she used oral resubmission for students whose low literacy skills let them down in written tests. Another teacher discussed the possibility of using tasks that had been completed earlier in a unit to provide additional evidence of assessment. However she then rejected this possibility on the grounds that it would not be possible to recall the exact conditions under which the work was produced, and so attest to authenticity. One school provided separate tutorials in the lunchtime to help students develop skills necessary to complete work.

One geography teacher commented that she had to support students to complete the internal assessment tasks by providing them with the stationery they needed to write. She said this is not atypical of provision needed in low-decile schools.

Feedback from assessment tasks

Whether practice or actual assessment tasks, teachers described going to considerable lengths to give detailed and specific feedback about their achievement to all students. Teachers agreed that it was very important to indicate to students how well they had done and whether they needed to resubmit on aspects of the tasks.

One geography teacher said she held an individual 5-minute interview with every student when giving back an assessment task. She went through the marking guide and assessment decisions with them and said students felt valued and saw the process as important. However, another geography teacher lamented that although she would like to, conferencing one-on-one with students was impossible in her Year 11 class since there were 30 students. Several geography teachers described using the last night of a fieldtrip to do something similar—students did a practice assessment on their fieldtrip learning then he assessed the results with each student individually.

Preparing students for external assessments

Only one home economics teacher said that her students did not enter for external standards. She offered a range of internal achievement standards and unit standards instead.

As might be expected, some class time is taken for practising external assessment tasks. Most schools have at least one set of “mock” examinations during the year and some have two. Most teachers described a range of traditional revision activities to support students’ preparation. These included practising answering mock questions, critiquing model answers, or reading the examiner’s report to students and focusing on specific points. Several home economics and geography teachers commented on the effort required to get students writing well, now that external assessment requires longer answers. They spent more time now helping students to structure paragraphs and analyse example paragraphs to focus on what made them work.

Some typical examples of examination techniques that were taught included the use of colour to highlight key words in the question, writing answers in bullet points, jotting down notes as planning for an answer, and planning the timing for each question/standard carefully.

Teachers also described a range of revision strategies that they used in class. One home economics teacher and one geography teacher said they now used neuro-linguistic programming techniques, rubrics, mind-maps, cue cards, fishbone analyses, plus-minus-interesting strategy, and prompting students to use colour when taking notes to help them memorise information. One geography teacher mentioned his use of thinking strategies and the use of mnemonics for helping students to remember facts and learning processes. He also spoke about the usefulness of going through “the big picture” of a topic and reinforcing key geographical ideas in each unit of work. “Chunking” units of work and units of content or processes was another strategy used by several home economics and geography teachers to help students succeed.

Moderation issues

Many of the teachers interviewed in this project were leaders in their subject areas. Therefore many of them had either been part of the unit standards moderation process or are now currently achievement standards task moderators, members of the implementation facilitator teams, or external assessors. All of the teachers interviewed were active developers of tasks for achievement standards.

The quality and availability of exemplars

Exemplar tasks form an important component of moderation by showing teachers types and standards of a range of potential tasks. However, two home economics teachers noted there were simply not enough exemplar tasks as yet and those that were available were not always workable. Another home economics teacher, from a rural area, noted that alerts to new task postings (on the

internet) were hard to keep up with, and she did not think she could do this without the support of the Beacon Schools network. She also noted that newly posted resources had sometimes been removed after a very short time if they were heavily critiqued—that is, they were of insufficient quality to begin with.

Several home economics teachers talked about how they network with other teachers to share resources and develop a pool of internal assessment tasks. They do this because they feel the examples on the internet are inadequate. Similarly, a geography teacher mentioned networking with other teachers in her area to produce activities and share them. She said this helped make tasks more student-focused and had given her a wider range of types of tasks and ways of presenting information to students. Sharing tasks was also thought to be supportive when it confirms that “what you’re doing is good”. Sharing tasks has helped teachers in small schools where there may be only one geography teacher.

However, one teacher’s comment suggested that not all views of sharing are so positive. She thought that those teachers who are actively writing their own tasks tend not to want activities from other sources, whereas those who were not so active “wanted things handed to them” and were not prepared to put effort in. However she said she could understand the workload issues for teachers in small schools.

Two geography teachers had accessed example activities written by either the Auckland Geography Teachers’ Association or the Canterbury Geography Teachers’ Association, who are in the process of putting out a disc of activities.

Consistency of pre-task moderation

Three of the eight teachers in one area⁹ told stories where they, or close colleagues, were involved in episodes where two teachers sent the same task to different moderators, only for one to have it accepted and the other rejected. As one of these teachers observed, moderation issues are very emotional for teachers, and this was clearly an experience that damaged their confidence in the moderation process. One of the home economics teachers said she did not complain because of time pressures. A geography teacher noted that one of the other HODs in her school did complain, and received a “mealy mouthed” retraction of the rejection.

One geography teacher gave an instance of a “nit picky” rejection where she had submitted a task with the second-to-last version number for the standard by mistake. There was otherwise nothing in the task that required change.

⁹ None of them had been moderators themselves.

Consistency of post-task moderation

Another geography teacher worried about the implications for her practice of “picky” decisions made by some moderators. She worried about situations where students had slipped up in some small detail but had otherwise clearly demonstrated the required learning. Her preference was to make a holistic judgement (as NZQA has encouraged teachers to do) but she was not at all confident that her moderator would back her up in this decision.

There is a need for consistency in marking when there is more than one class at a particular level, and so one teacher often marks the same task for all students. Commonly, teachers also cross check each other’s marking to make sure it matches the intention of the standard. This within-school moderation adds to their workloads.

Keeping tasks for ongoing moderation

Storage of student work is a practical moderation issue for teachers. During our visits to schools we were shown some highly organised storage strategies for collecting and keeping student work. All of them require secure space that can be easily accessed by teachers and, if they are fortunate, teacher aides do the sorting and storing.

Moderation as a teaching/curriculum limitation

Asked to comment on whether and how they involved students in making decisions about the content of their NCEA assessments, teachers from both subject areas said this would be impossible because moderation requirements restricted them to making minor adaptations of standard tasks. To do anything else, they said, was to risk having the task rejected. As we have outlined in the curriculum section, a few more confident and experienced teachers are beginning to push at the edges of these constraints, and to open up the range of assessment tasks to be similar to pre-NCEA levels.

The impact of NCEA on teachers and students

When considering changes in teaching practices, it is important to take the human impact of reforms into account. Overall feelings about a reform initiative can colour the views of teachers, students, and others, and so we also report briefly on relevant issues raised during the teacher interviews.

Teacher workload issues

Most teachers commented that the introduction of NCEA had undoubtedly added to their workload and said this was huge. These comments are not new. We have reported them in our own NCEA research (Hipkins & Vaughan, 2002; Hipkins et al., 2004), as have others (Alison,

2005). Most recently, the impact of the NCEA was clearly identified as a major contributor to increases in secondary teachers' workloads in general (Ingvarson et al., 2005). Several HODs commented that retiring staff have been pleased to leave because of the workload. There is a perception that senior management staff have little understanding of the amount of work involved in developing new resources, alongside the increased paper work and record keeping that is now required because of the implementation of NCEA.

Some teachers felt that specifically identifying learning outcomes helped teachers to focus on exactly what they wanted to assess and this reduced time deciding on appropriate assessment tasks. Nevertheless, finding resources and writing good new assessment tasks has added to workload pressures. As mentioned previously, teachers have found it very frustrating to download examples from the Web and submit them for moderation only to find that they were rejected. This has caused additional work in reshaping/modifying tasks to get them to acceptable standards. Making sure that practice and summative tasks are well written and appropriate is seen as an important aspect of helping students. Several teachers commented on the high stakes nature of NCEA and the need they felt to "do well by their students". There was stress associated with "the fear factor" to ensure students achieved good results. A home economics teacher commented:

Prior to NCEA it was easier to be a 9am-4pm teacher but now it's more of a bottomless pit. I'm quite passionate about teaching, but it can consume you. Your private life suffers.

When asked "What would enhance the delivery of achievement standards?" one home economics teacher said that teachers needed prewritten, pre-moderated assessment tasks that worked. These needed to be easily accessible, with sources given for available resources. Time is needed to find appropriate resources from the media and places like NZ Food and NZ Survey. Teachers do not necessarily know where to find this information. Several home economics and several geography teachers commented that the School Support advisers have been very helpful in giving teachers direction on this. The materials provided through the Beacon Schools project, the subject associations, and the information on TKI, were also thought to be very useful.

Where teachers have opportunities to work together, especially when they are from different schools, the workload is reduced because they do not need to "reinvent the wheel". Some commented that often teachers in other schools are more on their "wavelength" than colleagues in their own schools. Working with others also allows for some informal cross-moderation to occur. This particularly applies where teachers are the only teacher of their subject in their school. By contrast some teachers feel that there is not enough time, or that it is not practical, to work in clusters with other teachers to write tasks. Teachers talked about a need to balance the benefits of spending time on collaboration and the practical constraints of getting together. The constraints particularly link to teachers meeting with others in their own time.

Larger classes mean a larger workload because of the marking load. Small schools were thought to be disadvantaged in terms of the time allocated to management and the requirements for documentation/record keeping and reporting to NZQA. Some schools have plans to allow teachers

to access software such as Classroom Manager from home to reduce their need to access and enter data at school. Some teachers do not have sufficient computer skills to take advantage of this.

Notwithstanding these pressures, the teachers interviewed were, in general, very positive about NCEA implementation. As one teacher said “I still enjoy the ‘buzz’ of the kids learning.” Furthermore, these teachers remain professionally active in their own learning. Several said they like to have allocated time to read more widely in their subject areas and keep up to date with the content of new resources produced in the wider community.

The impact of NCEA on identifying and meeting the needs of students

Assessment needs

The teachers all agreed that students now had a greater assessment workload overall. They had to be more organised in terms of prioritising assessments, and finding ways to manage and understand the requirements associated with assessment tasks. Initially there was a lot of pressure on students, particularly in the initial year or two of implementation when reassessment was more prominent. It is common for students to keep diaries and to have access to school assessment timetables to help them manage their assessments. One home economics teacher mentioned the change in emphasis for the timing of assessment tasks. “We have shifted from assessing kids at the end of every topic, to assessing them when they’re ready.” This has altered their assessment planning.

There was agreement amongst the teachers of both subjects that, generally, boys found it more difficult to manage and organise their assessment workload and tended to leave assignment work until the last minute. Boys also tended to do less well in written tasks. In contrast, the teachers thought that the detailed nature of the requirements of standards suited most girls. Girls were also more inclined to strive for excellence whereas boys were more focused on gaining lots of credits.

Some students have responded to the increased workload by strategically choosing which external standards they will sit, depending on how many credits they think they need (Hipkins et al., 2004). Several geography teachers noted that some students are choosing not to answer some standards when offered externally, which impacts on their overall patterns of achievement. Teachers think some students are also choosing standards that are generally perceived to be easier. For example, students consider the tourism suite of unit standards to be easier than the geography standards. However if they take up tourism as a subject, they risk narrowing the academic pathways open to them. Aligned with this, teachers spoke of a “credit consciousness” where students constantly weigh up “How much is this worth?” This is particularly problematic when it spills over into other classroom tasks and students again ask, “What’s this worth?”

Several teachers in both subject areas said there is inconsistency between schools, between classes in the same school, and amongst students in the same class, about the amount of guidance teachers give to students. This creates inequities in assessment opportunities. Teachers felt that

more discussion was needed on this issue. There is some concern about knowing the distinctions in assistance to give students for Levels 1, 2, and 3 especially for the research units. One geography teacher commented “I found it quite hard not to tell students what to do in their research because I’m so enthusiastic, I can see what they can do.”

Learning needs

The home economics teachers almost unanimously agreed that the introduction of achievement standards had allowed students to pursue some aspects of their own interests. As one commented:

What I like about achievement standards is the students can draw on their own interests. It was easier for students with narrower experiences previously, but achievement standards are good for these kids because they widen their experiences. The more authentic you make it, the more they own the learning. There’s a lot more opportunity to apply this to themselves and family and friends.

To illustrate, she recalled that her Year 12 class had done a dietary assessment for the hockey team, and then the volleyball team also wanted assessments done for them. By contrast, we have noted in Section 4 that geography teachers perceived a drop in their ability to access students’ own interests for learning.

Some home economics teachers said there had been a shift in emphasis towards the development of lifelong learning skills, and towards helping others in the community. Geography teachers implied that there was some student choice in terms of content in the research standards.

Needs of specific groups of students

Several teachers indicated that as part of school-wide initiatives they had been discussing how to improve the achievement of Māori students. There is general agreement that, because the standards are assessed in smaller “chunks” than one external exam, Māori students who might not have gained acknowledgement of achievement previously were now able to gain some standards. In geography, students are required to understand Māori concepts. In some schools, students who are able to explain these concepts from a Māori perspective are helping to explain these to the rest of the class. There has been a gain in student empowerment through experiencing these learning successes.

The quantity of written material associated with both unit and achievement standards seems to hinder Non-English speaking background (NESB) students’ progress. These students often find it difficult to interpret the language of the standards. Several geography teachers indicated that because of the large amount of reading and writing involved in their subject, NESB students tended not to take geography. However the practical elements for both subjects were thought to be very valuable for NESB students.

The benefits of NCEA were very apparent for home economics students from low-income families. Teachers talked about how students were able to claim costs for ingredients but often

they did not make a claim because their caregivers valued the experiences they were getting and so provided what they needed.

Overall, teachers were positive about the ability of NCEA to provide enough flexibility to meet the needs of most students.

Organisational issues associated with NCEA assessment

Teachers have needed to develop systems for managing assessments. Most give out projected assessment dates to their students at the beginning of the year. Schools have also developed protocols for timetabling assessment tasks so that there may be 2 weeks at the beginning of the year when there are no assessments and designated weeks when teachers cannot take students out on fieldtrips.

There seems to be a lot more pressure on teachers to make sure that students' work for internally assessed tasks is "authentic"¹⁰, than was previously the case for Sixth Form Certificate. This often means that students are only permitted to use resources in class time and teachers commented on the need to have many resources available. Typically students have to complete tasks in the classroom or field station. Sometimes this means students need to sit reassessments, particularly for practical tasks, during the lunchtime. Additional costs have been sustained by schools when providing relief staff at times when home economics students are doing practical assessments. Generally, only 8–10 students can be assessed at any one time. For similar reasons, additional staffing is also required for fieldtrips in geography.

Photocopying of resources, along with the production of multiple copies of assessment tasks, has added to departmental running costs.

Other organisational issues were associated with accessing the standards and examples on the ministry website. It takes a long time to download the standards unless the school has broadband internet access. One school has got around this problem by storing the standards on their internal network. However, this could cause issues if new versions of standards were not copied onto this internal site.

¹⁰ In this context "authentic" means individual students have done the work by themselves.

7. Teachers' professional learning

This section reports on the professional development experiences that teachers brought to their classroom practice. Learning specifically related to the NCEA implementation is described first, followed by more general school-wide or personal professional learning experiences.

NCEA-related learning

All of the teachers interviewed had taken part in the NCEA jumbo days that provided professional development for the implementation of the achievement standards, but some had mixed feelings about the effectiveness of this process. One geography teacher commented that it was really only helpful for networking. Another geographer said that the jumbo days had done their time and they tended to encourage a mentality that “someone’s going to do it for teachers”. This teacher felt that now it is time for teachers to just get on and write tasks for themselves. However there was some concern that a substantial period of time (say a month or two) was needed to upskill content, but would not be granted by principals for this purpose. A home economics teacher commented that by working with other teachers on developing tasks, she was better able to understand the meaning of hauora.

Notwithstanding the lukewarm endorsement of a few teachers, there was a common perception that the professional development associated with the implementation of achievement standards *had* challenged teachers to focus on what they really wanted to achieve with their students. In one school this had flowed over to combined departmental meetings between the home economics and social science staff to help new staff in both departments develop and document ideas linked with the school’s educational principles, from both teachers’ and students’ perspectives. Another teacher commented that the professional development had made her “more self-reflective”.

There was also agreement amongst most of the interviewed teachers that the NCEA professional development had upskilled them in terms of aligning assessment with the curriculum. The professional development had allowed time for teachers to “unpack” the standards and work out their limitations. Many teachers commented that they needed the professional development to help them understand the terminology used in the standards. In turn, talking about the terminology with other teachers helped them to understand the concepts.

There was some comment that beginning teachers, because of recent training, did not require as much upskilling as teachers who had been in the system for some time.

Some teachers had been part of the National Assessment Panels, or facilitators or advisers to the professional development process. One home economics teacher commented that “being a facilitator, you almost get double the training. You have to work it through in your mind.” Another home economics teacher commented on what she had learnt from taking on the challenge of being a Beacon Schools facilitator. Two other home economics teachers had been contracted by the Ministry of Education to write exemplar tasks for Level 2, which had provided opportunities for thinking reflectively about what the standards set out to achieve.

Three geography teachers had been on Level 1 NCEA marking panels for external assessments. One said he learnt from this that the “level is quite low” but also that he had difficulty in making holistic judgements. Another teacher was more positive about the experience, saying it had provided her with insights into “what to look for, and advice to students”. The third teacher similarly commented that marking external standards provided excellent professional development for her in that, after reading 1600 scripts, she could see how students had interpreted the questions. One geography teacher felt that being a moderator provided excellent professional development opportunities.

Two home economics teachers had also been on Level 1 marking panels, and one of them had been a moderator at both Levels 1 and 2. She said that these experiences had exposed her to different ways of thinking about assessment tasks, different interpretations of tasks that could be made by students, and different ways of thinking about and marking tasks.

The Beacon Schools project

All of the home economics teachers in this research have been and continue to be part of a Beacon Schools cluster. We were particularly interested in the impact of their learning experiences in the cluster on their professional practice. One teacher commented that her involvement with the Beacon Schools project was very supportive because “One, it was inspirational and two, it gives me feedback as a professional so that I know I’m valued.”

All the home economics teachers commented that their involvement with the Beacon Schools project had significantly changed their *teaching* practices. In fact one stressed that it was the teaching ideas, rather than ideas for assessment practice, that had been so helpful. They now focused more on ways to help students learn through co-operative strategies. This has meant that a lot more time is spent preparing resources for group task activities. Teachers in one cluster described ideas about student journals that had been discussed at meetings. During their interviews teachers often referred to ideas such as these that they had got from Beacon Schools meetings, and it was very clear that all of them really valued this practically-focused professional development.

Several teachers said they really appreciated the leadership provided by the Beacon Schools project. They said that they were fortunate to have good support at both national and local levels. Between meetings, Beacon Schools teachers keep in contact through email cluster groups, which they also value.

In one school, the HOD of home economics, who has participated very actively in a Beacon Schools cluster, described the professional learning for her department (three staff) that takes place every Tuesday morning. During this time the three teachers focus on ways to develop critical thinking and literacy skills, incorporate ICT and philosophy, and reflect on their teaching. This teacher also took every opportunity there was to find out more information about conferences she might attend and any courses offered at the nearest college of education. She was very grateful for the level of professional development support received from her school and considered this had helped her department to be at the “cutting edge” of developments and implementation for home economics.

The role of subject associations

Subject associations have also played a large role in developing teacher networks and distributing examples of tasks. There have also been geography days held by teacher associations that have been very active in sharing tasks and assessment advice. Both the home economics and geography teachers commented that they were very fortunate to have good leadership in their subject areas. The development of tasks for use with NCEA had arisen out of the networks of teachers established.

School-wide professional learning

Many of the teachers had been involved in school-wide literacy initiatives, ABeL (Achievement for Better Learning), and school cluster professional development on learning strategies, particularly co-operative learning strategies. One geography teacher was actively involved in the organisation of regular school-wide professional learning in her school, which involved focused discussions around selected research readings. Another geography teacher was adamant that changes in her classroom practice were related to both school-wide and individual professional development she had done in the area of thinking skills. In her view the changes she had made had nothing to do with the NCEA implementation. Another geographer said that the Literacy Leadership programme in her school was “too much theory”. By contrast, the home economics teachers were actively exploring and initiating the teaching of literacy skills, and they had also discussed these in their Beacon Schools clusters.

8. Shifting Balances—a tale of two subjects

In this final section of the report we draw together the findings to compare NCEA-related changes to classroom teaching in these rather different subjects of geography and home economics. In the first round of *Shifting Balances* research we reported considerable similarities in patterns of change—or not—in mathematics and science teaching (Hipkins & Neill, 2005). This second research project has been different. While there are some themes in common, there are also change issues that are more relevant to one subject or the other. Similarly, in the last research round we found no apparent regional differences. That was not the case in this project. Some aspects of home economics teachers' practice differed in the two main research regions, especially in relation to use, or not, of student journals. We think this difference is attributable to the emphasis placed on use of journals in one Beacon Schools cluster, an emphasis that was less apparent in the other cluster.

Change takes time

The first round of *Shifting Balances* research was carried out in 2003—while the staged implementation of the NCEA was still underway. By contrast, 2005 has been a year for consolidation, now that the NCEA is being used to assess all three senior secondary school levels. The level of opposition to the NCEA that we reported last time (Hipkins & Neill, 2005) was less in evidence in the conversations we had during the second project, and where it did exist we found care was needed in evaluating its significance. For example, the initial reluctance to implement Level 2 saw one very experienced geography teacher hang on to her Sixth Form Certificate programme in 2003. This could be read on a superficial level as resistance to change. What we actually found was a reluctance based on the perception that implementing the NCEA would limit and constrain this teacher's existing rich repertoire of innovative assessments. As she noted, these varied and creative assessment tasks had been built up over many years of practice and reflection, and her sadness at the thought of being constrained into a narrower straightjacket of prescribed types of assessment tasks was palpable. However, of particular interest here, this teacher, in her second year of Level 2 implementation, was just beginning to see creative ways to reintroduce the assessment tasks she so valued, and therefore find ways to make the NCEA assessment process better match her own assessment philosophy. She noted the time needed to get to grips with the new ways of assessing, and the importance of providing time for teachers to talk and reflect together, and to design and trial new tasks. It would be interesting to revisit this

teacher in several year's time to see how this trend to increasing confidence in reclaiming her own assessment expertise has played out.

The school change literature comments on the complexities of change and suggests that adequate timeframes are needed for real shifts to happen in school systems (Russell, 2003; Stoll & Fink, 1996). As Russell (2003) states:

It is estimated that some three to five years of focussed [sic] planning and implementation are needed if change in the middle years environment is to be achieved, perhaps longer in secondary schools where the challenges are more complex (p. 1).

It may be that the greater variety in responses we found, compared to the first *Shifting Balances* round, is directly related to the longer time that has elapsed since implementation began. However it is not possible to claim this with any real confidence, since the subject areas are another key variable that changed between the two rounds.

The relationship between curriculum and assessment change

Section 4 reported home economics teachers' perceptions of great changes in their classroom practice—and indeed in the whole subject called “home economics” that they teach. Their practices have shifted significantly in 19 of the 20 areas covered by the descriptors provided on the self-reflection sheet. By contrast, geography teachers, like the science teachers in 2003, reported modest changes in some aspects of practice, particularly those related to helping students prepare to gain achievement standards at merit and excellence levels (see Section 4).

How are these differences to be understood? One aspect that seems of great interest to us is the difference in the basis on which the achievement standards in the two subjects were developed. The home economics achievement standards were based on the recently mandated *Health and Physical Education in the New Zealand Curriculum* (Ministry of Education, 1999). This curriculum is underpinned by philosophical perspectives that include a focus on the social determinants of health, the “healthy communities” philosophy of health promotion, the idea of action competence that is more commonly found in environmental education, and the bicultural philosophy of health as hauora. The influence of all of these ideas can be traced through the collection of achievement standards in health, in physical education, and in home economics. This influence was very obvious in teachers' discussion of the “sociological” aspects that had changed the nature of home economics as a school subject, and had impacted dramatically on classroom practice.

By contrast, geography teachers are using achievement standards that were developed from examination syllabuses that had been in existence for some years, and were predominantly lists of topics and skills to be covered. More philosophical approaches to subjects are most apparent in

the more recent curriculum documents¹¹ and were not a feature of traditional examination prescriptions. This does not mean that teachers were not interested in curriculum change as an outcome of the development of the new achievement standards. However, as we have seen, attempts to tinker with the balance of topics and skills as the geography standards were developed resulted in an expansion of the perceived curriculum, with attendant stress and “coverage” issues for teachers and students. This was a very different type of change process to the subject rethinking that accompanied the NCEA-prompted changes in home economics.

It is interesting to explore a possible counter-argument. Science teachers’ practice in the first *Shifting Balances* round had changed about the same amount as geography teachers’ practice in this round. But science teachers do have access to a relatively recent curriculum document which does signal some philosophical directions related to the constructivist idea of “making sense” of learning¹², and which has a strand that describes more philosophical outcomes related to developing understandings of the nature of science. However, this document was not the basis on which the Level 1 science achievement standards were developed. (In fact, no “nature of science” achievement standards have yet been developed.) The initial set of Level 1 standards, on which the first *Shifting Balances* study was based, were devised from the previous examination prescription for School Certificate Science. That is, like the geography standards, they were developed around skills and content, not around particular philosophical perspectives that focus on how and why learning in a subject area should be shaped to achieve certain types of outcomes.

Could it be that a different view of curriculum plays an important part in giving teachers confidence to remake their classroom practice—especially when the key philosophical messages of the curriculum are reinforced by the development of assessment standards that reflect the same orientation. In the absence of these types of philosophical changes, geography teaching, like science teaching, seems to have continued more or less as “business as usual”, albeit with some changes related to changing assessment practice.

As in the first round of *Shifting Balances*, the NCEA changes have led to a greater emphasis on helping students think through knowledge issues in a way that will allow them to address assessment tasks at merit and excellence levels. Last time we found that some schools had introduced a type of de facto streaming when they decided that only some students would be able to gain merit and excellence, and hence benefit from this type of practice (Hipkins & Neill, 2005). We found no evidence of such differentiation this time. Indeed, the types of students who are typically encouraged into home economics might expect not to be encouraged to carry out higher level thinking in the versions of English and mathematics they are likely to be taking (Hipkins et al., 2004). It is intriguing that their home economics teachers say these students are rising to the very considerable academic challenges posed by the achievement standards, albeit with careful teacher scaffolding. Also, both home economics and geography are optional subjects, with fewer

¹¹ The *Arts in the New Zealand Curriculum*, mandated in 2000, also provides strong philosophical perspectives, for example.

¹² *Science in the New Zealand Curriculum* was mandated in 1993.

class groups at any year level than in the compulsory subjects. This, too, would discourage any sorting of students for different types of assessment preparation experiences.

Student research and the ownership of learning

Geography teachers' responses in Sections 4 and 5 suggest mixed feelings about the role and importance of independent student research in their programmes. They say they value this (Section 5) but the self-reflection rankings indicate that students are doing more research than the teachers' priorities indicate they should be (Section 4). Doubtless the geography teachers' mixed feelings relate to what they see as the "coverage" pressures of their crowded curriculum. The difference is not as apparent in home economics, where change in so many aspects has taken place. However some home economics teachers also often mentioned trying to balance the increased need for students to carry out independent research with content coverage.

There is an interesting potential shift in balance here that we did not identify in the first round of the research. The move away from most or all "content" being selected and mediated by influential others (teachers and textbooks, for example) to greater student ownership of the selection and shaping of the content they learn is encouraging, if challenging. The need for students to claim more ownership of their learning, in order to foster lifelong learning skills, is a clear theme of the future-focused education literature (Bryce & Withers, 2003; de la Harpe & Radloff, 2000; Gilbert, 2005). Some geography teachers described ways they develop important geography-focused aspects of information literacy. For example, two teachers described interesting strategies for helping students learn to be more critical about published geographical statistics (see Section 5). Such critical awareness potentially fosters the types of metacognitive awareness of the "nature" of the subject that are seen as necessary for lifelong learning (Gilbert, 2005). Accordingly, it is worth reflecting here on ways to support teachers to increase the momentum of this still tentative shift in the balance of the ownership of learning decisions.

In other NCEA-related research, we have found that many students experience research as an activity that predominantly entails information retrieval and repackaging (Hipkins, 2005). Many students are not yet being taught generic information literacy skills, let alone being encouraged to adopt a critical perspective that is informed by aspects of the nature of the relevant discipline. (For example, the focus on the construction and currency of statistical measures used for social decision making is a particular feature of human geography. Interestingly, it is now also important in home economics when social determinants of health are being explored.) Most achievement standards that include research aspects do not yet adopt this type of subject-specific critical approach. Rather, the product or "content" of the information retrieved is likely to be what defines subject specificity. In view of this, it is not surprising that the *Learning Curves* research has revealed a tendency for teachers to see research skills as transferable, and so not something they need to take time to teach or assess (Hipkins et al., 2004). Similarly, four of the nine science teachers in the first *Shifting Balances* round had dropped the internally assessed achievement

standard for research at Level 1, leaving just one internally assessed component in their programmes (Hipkins & Neill, 2005). It is encouraging that no teachers expressed this view in this second *Shifting Balances* round, and geography teachers saw research *processes* as integral to their subject. Nevertheless, we see this as an area for ongoing professional development. Above we have argued that the extent of the classroom changes we found in home economics illustrates the impact that more philosophically-based achievement standards can have. In view of this, we also suggest a subject-by-subject revisiting of the “research” standards themselves.

Balancing time spent on assessment and learning

Teachers in both subjects expressed concerns about the amount of classroom time that is taken for assessment-focused activities, and about what they perceived as the narrow and specific nature of many assessment tasks. We have noted that concerns about the need to attest for authenticity of individual student’s work are an important aspect of these perceived constraints because they act to limit assessment to written tasks carried out under formal supervision in class time. This is very different from the types of assessment activities that Paul Black envisaged when he assessed the manageability of the NCEA early in the implementation process (Black, 2001).

Encouragingly, however, these teachers are using a range of interactive learning tasks for *formative* assessment. Ongoing professional development may well help them achieve a better learning/assessment balance if it gives them the confidence and perceived “permission” to incorporate more information from what they now use as formative tasks into their *summative* decisions, as recommended by Black (2001). However, professional development, on its own, is unlikely to be sufficient to achieve such change. The teachers’ comments indicated that the moderators’ decisions are having a conservative impact on assessment practice, and are restricting variability in interpretations of what can constitute appropriate tasks. Credible exemplar tasks will need to be more widely disseminated, and be seen to be endorsed by the moderation process, before such shifts become acceptable to teachers.

An obvious way of balancing assessment and learning time is to assess less. We have found some selective dropping of achievement standards in this round of the research—less in geography than in home economics. The geography teachers’ reasoning about their balancing of coverage pressures and time for good teaching and learning (see Section 5) reveals a thoughtful intention to retain what they see as the integrity of their *subject*. The home economics teachers selected with a somewhat different emphasis. They spoke about the mix of assessment instruments that would be appropriate for the learning programmes they had devised to meet *the needs of their students*.

Whether the relative emphasis is placed on subject integrity or student learning needs, in both subjects, this level of thoughtfulness could not be said to amount to a “fruit salad” approach to the selection of achievement or unit standards. This has been one criticism of the NCEA (Alison, 2005). We could say that these are teachers who were nominated by their peers as being at the top of their profession and so they would be unlikely to make decisions that sold students short on

learning for “easy” credits. It is worth noting then, that we have found a similar level of thoughtfulness in teachers’ reasoning about dropping standards, or mixing achievement and unit standards, across the HODs of five different subject areas in the six *Learning Curves* schools (Hipkins et al., 2004). We question the implication of the “fruit salad” characterisation—that subjects inevitably lose coherence when selection of assessment instruments occurs. We think this question bears wider scrutiny and critique, across a range of subjects.

Has formative assessment practice changed?

Section 3 shows that teachers perceive they are now making more use of formative assessment than they did pre-NCEA. Compared to the first round of *Shifting Balances* research, this seems to have become a more prominent aspect of teaching, especially in home economics (see Section 4). However, as in the earlier research round, it was apparent that when teachers talk about formative assessment feedback they are often discussing feedback for improving assessment practice, not feedback that can help determine next *learning* steps. This perception of formative assessment as practice summative assessment still persists, particularly amongst the geography teachers.

Examples of tasks used for formative assessment were given in Section 6. One interesting finding is the regional variation in the use of learning journals in home economics. Teachers in one region had tried learning journals but have since given up on them because they were considered time-consuming and other formative assessments such as checklists and planning sheets were thought to be more worthwhile. Some teachers who had attended Beacon Schools meetings were more likely to be advocating the use of journals as a vehicle to highlight learning issues, and as a basis for discussion of next learning steps. As with all other aspects of practice, making more use of formative assessment for learning purposes would need to be valued more highly to be prioritised more often.

At present teachers are still bearing the brunt of the responsibility for making decisions about assessment preparation and practice, and they are feeling the pressure of the time this takes from their teaching programmes. It seems likely they would see handing over more ownership for assessment decisions as an abdication of their own responsibilities. In all probability, students and their parents would feel the same.

Assessment and lifelong learning: Challenges into the future

The need to hand more ownership of decisions about learning to students is a key feature of the future-focused literature on teaching changes that foster lifelong learning (Bryce & Withers, 2003). It also needs to become an integral part of assessment practice—even when the stakes are high, as in summative assessment—if students are to be empowered to make better decisions about their future learning (Aikenhead, 1997).

The assessment literature identifies three broad sets of purposes that assessment of key competencies might be expected to serve. Briefly, these are:

- assessing for accountability at school and wider policy levels, and for reporting learning progress to any stakeholders who have a need for this information (the traditional purpose for externally driven summative assessment);
- using assessment to support students’ learning and as a driver for improving classroom teaching and learning practices (the focus of many formative assessment initiatives, for example); and
- using assessment to empower students to become lifelong learners (so-called critical or emancipatory purposes for assessment).

These three purposes align rather neatly with three assessment paradigms described by Aikenhead (1997). He set out to construct a framework that would make explicit the theoretical orientations that underlie debate about assessment issues. Following Habermas’ analysis of sociological research more generally, Aikenhead described empirical-analytic, interpretive, and critical-theoretic assessment paradigms. The next table shows the purposes/paradigms alignment that was developed for another recent NZCER report (Hipkins, Boyd, & Joyce, forthcoming). More details of these differences can be found in that report.

Table 13 ***Alignment between three assessment purposes and paradigms***

| <i>Paradigm</i> | <i>Most compatible purpose</i> | <i>Nature of assessment</i> |
|------------------------|---|---|
| Empirical-analytic | Accountability (school and wider policy levels) and reporting | Empirical methods based on psychometric principles, yield “robust” comparative data |
| Interpretive | Improving teaching and learning | Evidence of achievement against specified standards, may combine descriptive and data-based components Judgements made by others, not students |
| Critical-theoretic | Fostering lifelong learning | Extends features of interpretive paradigm—collaborative methods fully involve students and empower them to continue learning |

It is interesting to compare this brief sketch of the characteristics of assessment for different purposes with our findings in this project. Section 4 showed that the two “student ownership” descriptors (descriptor 4 concerns learning decisions and descriptor 10 concerns assessment decisions) are still ranked low in terms of priorities and practice in both subjects. However home economics teachers do perceive that they are now involving students more in making *learning* decisions, which is encouraging, and is congruent with the finding that formative assessment practices are being used more often and more widely discussed.

Importantly, all these teachers, along with most other New Zealand secondary school teachers, can now use standards-based assessment with sufficient confidence to discuss both strengths and challenges. At this time of transition, we can generally locate assessment practice within the

“interpretive” paradigm on the table above. Given that the empirical-analytic assessment paradigm had reigned supreme since the inception of mass-schooling, this represents a huge professional learning achievement that is not to be underestimated.

The challenges posed by the future-focused literature cannot be addressed by changing any one aspect of practice in isolation. Seen from this perspective, we can say that the NCEA has opened up the *possibility* of further change in formative assessment practice, if other change factors support this. One of those factors will doubtless be ongoing professional development. Another will be that broader school systems support this impetus.

Leadership and sharing in teacher learning

The power of supporting teacher professional learning through collegial sharing is evident in the findings of this research. Other research has shown that their peers are teachers’ most preferred source of professional support and advice (Hipkins & Hodgen, 2004) and the range of ways this can constructively happen has been described here.

The Beacon Schools project has clearly been very influential for the home economics teachers. Beacon Schools leaders have helped other teachers interpret the meaning of the new curriculum and its supporting achievement standards, whilst also professionally stretching themselves. Shared tasks have lessened the feeling of “reinventing the wheel” and email has provided a forum for ongoing contact between meetings. While the teachers were chosen because they were involved in Beacon Schools, and we have no way of knowing how much impact this initiative has had on other home economics teachers, this seems to us to be a very powerful and successful model of professional learning.

The importance of strong subject associations is also evident in the teachers’ comments. Most are active members of their respective subject associations, and in some cases they are leaders in these groups. While this is very time-consuming voluntary work, there are again clear professional benefits for all the teachers involved.

A less visible way that teachers share their expertise is through the assessment support tasks that they undertake voluntarily—that is, moderation and any role related to external assessment setting and marking. Assessment could not take place as it is currently organised without this voluntary work. The teachers who undertake this work say they gain a great deal professionally, but there are also very evident time pressures and costs. These roles can also be uncomfortable for teachers. We have, for example, reported on moderation criticisms, and these must relate to decisions made by other teachers, although their names are not revealed. In this climate, only the moderating/marking teachers’ own students can benefit from what they learn, because there is inevitably no sharing outside the anonymous group. If a way could be found to involve a wider range of teachers in moderation work, without compromising the quality of the decisions made, the benefits could be shared more widely. One model might be to run moderation panel meetings,

where ‘blame’ is not attributable to one person, interpretation of the standard is a matter for negotiated discussion, and decision making is seen to be shared. There would be time and funding costs involved in doing this but the benefits in terms of moving assessment, teaching, and curriculum interpretation forward could be worth it.

Another interesting model for encouraging teachers’ professional growth through assessment reform is that employed by the process of “secondary inquiry” being developed by the Senior Secondary Assessment Board of South Australia (SSABSA). The inquiry process is retrospective and involves “validation through challenge” (Keightley & Keighley-James, 2001, p. 6). Educators who are skilled in critical analysis and argument, but who bring an outsider’s perspective to the curriculum area in question, work through an analysis process with the assessors. Together they identify areas that might be “vulnerable to alternative explanations” (p. 6). The intention is to strengthen assessment expertise in the teaching community through an open process of dialogue and professional growth. This model appears to be an interesting example of what Delandshere (2002) would call “assessment as inquiry”.

In the meantime it is encouraging that consolidation of gains in assessment understanding with the “interpretive” paradigm are clearly happening for these teachers. The challenge is to keep the momentum going while addressing the evident workload issues and devising ways they can share more widely with their peers, with less personal cost, and with continued opportunities for their own professional growth.

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Appendix A: Preliminary Teacher Self-reflection Sheet

The statements down the left hand side of this table have been modified from recent research on shifts in a teaching and learning focus in science/mathematics that could better align students' learning with their likely post-school needs in this twenty-first century. They are intended as a *beginning* point for our conversation. Please tick ONE box in each of the three columns (Q1, Q2, Q3). We will discuss these responses during the school visit. The various statements might also help you when thinking about interesting teaching and learning materials to bring to our discussions.

| Statements about teaching, learning and assessment | Q1. What priority do you think should be given to each of these practices? | | | | Q2. Pre-NCEA how often did these practices happen in your senior classes? | | | | Q3. How often do these practices happen in your senior classes now? | | | | | |
|--|--|------|----------|-----|---|----------------------|-------|--------------|---|----------------------|-------|--------------|-------------------|--|
| | Very high | High | Moderate | Low | Very Low | All/most of the time | Often | Occasionally | Hardly ever/never | All/most of the time | Often | Occasionally | Hardly ever/never | |
| 1. Providing stimulus materials that challenge students' ideas and assumptions and that encourage discussion, speculation, and ongoing exploration by groups of students working together. | | | | | | | | | | | | | | |

| Statements about teaching, learning and assessment | Q1. What priority do you think should be given to each of these practices? | | | | | Q2. Pre-NCEA how often did these practices happen in your senior classes? | | | | Q3. How often do these practices happen in your senior classes now? | | | |
|--|--|------|----------|-----|----------|---|-------|--------------|-------------------|---|-------|--------------|-------------------|
| | Very high | High | Moderate | Low | Very Low | All/most of the time | Often | Occasionally | Hardly ever/never | All/most of the time | Often | Occasionally | Hardly ever/never |
| 2. Moving away from a strong focus on content 'coverage' towards a focus on ensuring understanding and meaningful learning of a reduced amount of content. | | | | | | | | | | | | | |
| 3. Encouraging students to make their own decisions in planning and carrying out practical investigations, research or critical analysis (e.g. using critical action cycle in HE or carrying out a research project in geography). | | | | | | | | | | | | | |

| Statements about teaching, learning and assessment | Q1. What priority do you think should be given to each of these practices? | | | | | Q2. Pre-NCEA how often did these practices happen in your senior classes? | | | | Q3. How often do these practices happen in your senior classes now? | | | |
|---|--|------|----------|-----|----------|---|-------|--------------|-------------------|---|-------|--------------|-------------------|
| | Very high | High | Moderate | Low | Very Low | All/most of the time | Often | Occasionally | Hardly ever/never | All/most of the time | Often | Occasionally | Hardly ever/never |
| 4. Involving students in making decisions about what should be learned and how this learning could happen. | | | | | | | | | | | | | |
| 5. Ensuring higher order tasks involving the generation, application, analysis, and synthesis of ideas, are well represented. | | | | | | | | | | | | | |

| Statements about teaching, learning and assessment | Q1. What priority do you think should be given to each of these practices? | | | | | Q2. Pre-NCEA how often did these practices happen in your senior classes? | | | | Q3. How often do these practices happen in your senior classes now? | | | |
|--|--|------|----------|-----|----------|---|-------|--------------|-------------------|---|-------|--------------|-------------------|
| | Very high | High | Moderate | Low | Very Low | All/most of the time | Often | Occasionally | Hardly ever/never | All/most of the time | Often | Occasionally | Hardly ever/never |
| 6. Encouraging students to actively clarify their own ideas and assumptions, and to think about their learning processes (e.g. by using concept mapping, model making, learning journals, exploration of alternative strategies etc.). | | | | | | | | | | | | | |
| 7. Using students' personal interests, social/ethical concerns, and cultural identities, as the context of geography. Or using home economics topics and involving them in making choices about their learning. | | | | | | | | | | | | | |

| Statements about teaching, learning and assessment | Q1. What priority do you think should be given to each of these practices? | | | | | Q2. Pre-NCEA how often did these practices happen in your senior classes? | | | | Q3. How often do these practices happen in your senior classes now? | | | | |
|---|--|------|----------|-----|----------|---|-------|--------------|-------------------|---|-------|--------------|-------------------|--|
| | Very high | High | Moderate | Low | Very Low | All/most of the time | Often | Occasionally | Hardly ever/never | All/most of the time | Often | Occasionally | Hardly ever/never | |
| 8. Setting a variety of types of tasks during each unit. | | | | | | | | | | | | | | |
| 9. Using a variety of methods to assess student understandings, at various points in a unit, (e.g. open ended questioning, checklists, project work, problems, practical reports, role plays, journals, mind mapping, brainstorming). | | | | | | | | | | | | | | |
| 10. Involving students in making decisions about what should be assessed, how assessment should be carried out and what the next steps are. | | | | | | | | | | | | | | |

| Statements about teaching, learning and assessment | Q1. What priority do you think should be given to each of these practices? | | | | | Q2. Pre-NCEA how often did these practices happen in your senior classes? | | | | Q3. How often do these practices happen in your senior classes now? | | | |
|--|--|------|----------|-----|----------|---|-------|--------------|-------------------|---|-------|--------------|-------------------|
| | Very high | High | Moderate | Low | Very Low | All/most of the time | Often | Occasionally | Hardly ever/never | All/most of the time | Often | Occasionally | Hardly ever/never |
| 11. Ensuring assessment incorporates a range of levels and/or types of thinking. | | | | | | | | | | | | | |
| 12. Collecting evidence of student understandings and perspectives early in a learning sequence to help plan subsequent lessons. | | | | | | | | | | | | | |
| 13. Ensuring students have ongoing feedback which indicates their strengths and weaknesses and their next learning steps. | | | | | | | | | | | | | |
| 14. Using appropriate research tools and strategies to explore an issue. | | | | | | | | | | | | | |

| Statements about teaching, learning and assessment | Q1. What priority do you think should be given to each of these practices? | | | | | Q2. Pre-NCEA how often did these practices happen in your senior classes? | | | | Q3. How often do these practices happen in your senior classes now? | | | | |
|---|--|------|----------|-----|----------|---|-------|--------------|-------------------|---|-------|--------------|-------------------|--|
| | Very high | High | Moderate | Low | Very Low | All/most of the time | Often | Occasionally | Hardly ever/never | All/most of the time | Often | Occasionally | Hardly ever/never | |
| 15. Including structured discussion and debate of evidence contributing to public issues that are of interest/importance to students. | | | | | | | | | | | | | | |
| 16. Basing sequences of work around local community projects or concerns. | | | | | | | | | | | | | | |
| 17. Using learning technologies to support quality learning behaviours such as exploration, conjecture, or collaboration (e.g spreadsheets, Internet, data loggers, data bases, digital learning resources, GIS). | | | | | | | | | | | | | | |

| Statements about teaching, learning and assessment | Q1. What priority do you think should be given to each of these practices? | | | | | Q2. Pre-NCEA how often did these practices happen in your senior classes? | | | | Q3. How often do these practices happen in your senior classes now? | | | |
|---|--|------|----------|-----|----------|---|-------|--------------|-------------------|---|-------|--------------|-------------------|
| | Very high | High | Moderate | Low | Very Low | All/most of the time | Often | Occasionally | Hardly ever/never | All/most of the time | Often | Occasionally | Hardly ever/never |
| 18. Exploring different values and perspectives that students bring to their geography/home economics learning. | | | | | | | | | | | | | |
| 19. Making connections with other curriculum areas. | | | | | | | | | | | | | |
| 20. Carrying out field work. | | | | | | | | | | | | | |

Appendix B: Shifting Balances Two: Teacher interview questions

1. Prior to the introduction of the NCEA, did you use unit standards to assess this subject?

Yes **No** **(circle one)**

If yes, ask for details of experience with unit standards:

- how many years used
- satisfaction with them
- any concerns or reservations

2. Has home economics/geography changed as a subject in recent years? If yes, how?

3. What home economics/geography courses does your school offer?

4. Are there any other courses that offer assessments for home economics/geography? (Home economics — does your school offer food technology in the junior school?)

5. Does your school have guidelines about the number of credits offered for each subject? (If yes, what are they?)

6. How many credits are required to gain entry to a Level 2 course in geography/home economics in your school?

7. Can you explain to me how you prepare students to achieve well in their NCEA assessments:

- for the formal assessment of internally assessed standards.
- for sitting their examinations for externally assessed standards (not if you only offer unit standards).

8. How do you use formative assessment in your classes?

9. How do you think these actions you've described for formative assessment are helpful for students' learning?

10. What evidence do you collect to make summative judgements about students' achievement?

11. Do you think the overall balance of time spent teaching learning skills, content, and practical skills has changed? If yes, how has it changed?

12. Have you changed the amount of time you now spend on teaching the various curriculum topics? If so, can you explain how?

13. In your opinion, do you now spend more or less class time working on assessment for qualifications than you did in previous years? (i.e. NCEA vs. School Certificate or Sixth Form Certificate preparation)

much more more same less much less

(circle one and comment)

14. What organisational issues have arisen with respect to assessment? How have you resolved these issues (if you have)?

15. What professional development programmes have you been involved with since the introduction of NCEA? (e.g. Literacy Leadership, Beacon Schools, focused school-wide PD, cluster PD, ICT lead school, AtoL/ABeL, national exemplars project, subject association activities, NCEA jumbo days).

16. Has this PD influenced your implementation of NCEA? If so in what ways?

17. Have you been involved in moderation or other developmental processes for assessment in your subject?

18. How has the implementation of NCEA impacted on your ability to identify and meet the learning needs of students? You could consider some or all of the the following groups:

Māori and Pasifika students

Students with special needs (including gifted and talented).

Male/female students

International and NESB students

Students from low-income homes

Mainstream students

19. What other impact(s) has the introduction of the NCEA had on the students who study in your subject area? What strategies has the school developed to manage these?

20. What impact has the introduction of the NCEA had on the teaching staff in your subject area? What strategies has the school developed to manage these?

21. Is there anything else that you would like to comment on, or that has been raised by my conversation with you today?