Conceptions of Assessment and Feedback

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Acknowledgements

Table of Contents

Tables

Appendices

1. Aims, objectives, and research questions

Assessment and feedback are an integral part of the teaching and learning process. They affect not only what is learnt, but how students learn, their motivation, goals, and sense of self (Cowie, 2003). If students have a negative conception of the role of assessment and they misinterpret the meaning of feedback, this can lead to reduced motivation and low self-esteem.

While a learning environment or task may be designed to facilitate student change on a given variable (e.g., feedback to enhance literacy skills), students' and teachers' conceptions will influence the way the task or environment are experienced (Trigwell & Prosser, 1991; Fransson, 1977; Kōnings, Brand-Gruwel, & van Merriēnboer, 2005; Vermetten, Vermunt, & Lodewijks, 2002; Meyer & Muller, 1990). Research findings such as these give weight to the claim that what students believe could be the "single most important construct in educational research" (Pajares, 1992 p. 329).

The potentially powerful influence of conceptions on educational outcomes led this project team to investigate what teachers and students think is the purpose of assessment and feedback and how these conceptions influence achievement. Previous research by the research team prepared the way for this project (Brown, 2004; Dixon, 1999; Irving, 2005; Entwistle & Peterson, 2004). In order to get a diverse range of individuals, four schools across a range of deciles and with a varied ethnic and cultural mix were selected to take part. We chose to focus on conceptions of assessment and feedback because assessment and feedback are crucial for promoting learning in schools.

Another important aim of this project was to help teachers to become researchers. We did this by supporting them to develop classroom-based activities that they could use to become aware of their own and their students' conceptions of assessment and feedback. We also helped the teacher-researchers to use this information to inform their assessment and feedback practices.

This project fits well with the following TLRI strategic priorities and research value themes:

- understanding the teaching and learning process
- exploring future possibilities
- reducing inequalities and addressing diversity
- building capacity
- consolidating and building knowledge
- addressing a gap in our knowledge.

The specific project aims and research questions are given below.

Aims of the project

The aims of the project were to:

1. develop ways of identifying students' and teachers' conceptions of assessment and feedback
2. develop models which teachers can use to enhance the assessment and feedback process in secondary schools
3. develop research-based evidence for effective assessment and feedback processes which will raise teaching and learning outcomes in mathematics and English in four schools
4. support teachers to become researchers of their own assessment and feedback practices.

Research questions

1. What are students' and teachers' conceptions of assessment and feedback?
2. What effect do conceptions of assessment and feedback have on student learning outcomes?
3. What classroom activities can teachers use to identify students' conceptions of specific assessment and feedback practices?
4. How easy is it to become a teacher-researcher and what factors contribute to the success of programmes like the TLRI?

Project structure

To address the strategic aims and research questions of our TLRI project, the study was divided into three broad research areas which provide the framework for this report:

- action research: enhancing assessment and feedback processes in the classroom
- the teacher-researcher journeys: becoming a teacher-researcher
- identifying students' and teachers' conceptions of assessment, feedback, and learning, which led to the development of questionnaires for this purpose; and the effect of the conceptions on student learning outcomes.

2. Design and methodology

A mixed-methods approach was taken to capture student and teacher conceptions of assessment and feedback, and how these have an effect on student achievement. Both qualitative and quantitative techniques have been employed to provide a picture of these conceptions. Each approach informed the other, and enabled us to map some initial findings about New Zealand student and teacher conceptions of assessment and feedback.

Qualitative methods included focus groups, semi-structured interviews, written project notes, anonymous evaluations, brainstorming, transcripts for all team meetings, and selected resources that the teachers used to collect data from their classes—post boxes, concept diamonds, and feedback sheets. In addition, several quantitative data collection processes were employed—class assessment results and questionnaires.

At the start of the project, a series of focus groups with students (Peterson & Irving, in press) and with teachers (Irving & Peterson, in preparation) from participating schools provided rich data that informed the progress of the project, as well as the development of three student questionnaires. These three student questionnaires—conceptions of assessment (Brown, 2006), conceptions of feedback (Irving & Peterson, 2006) and conceptions of learning (Peterson & Irving, 2006)—were based on earlier work, extended through the CAF project and are now being validated through a national sample of secondary students.

A major focus of the research was developing action research projects for each of the teacher-researchers. Each teacher was supported by one of the university research team as their individual mentor. The mentors helped the teachers to formulate questions to direct their research, devise ways of obtaining data to address their questions, and to analyse the data and explain their findings. The first year was focused on building capacity in action research, developing an understanding of the relevant literature, devising tools that could be used to capture what students think with respect to issues in assessment and feedback, and engaging the teachers in examining data and drawing tentative conclusions from their findings. The second year focused on interventions that the teachers could implement in their own classrooms (or, in one case, throughout a department). Each of these interventions was unique to the teacher and school, providing a panoply of small action research experiments.

Student achievement data (using asTTle for either reading or mathematics) have been collected each year to examine the relationship of the research activities to student achievement. Some of these data have been analysed and linked to the conceptions (Brown & Hirschfeld, 2006) but further work is required to fully investigate the relationship of conceptions of assessment, feedback and learning to student achievement.

The project team met once each term over the two years to discuss and share ideas on the teacher action plans, discuss their progress, and provide support. These meetings rotated around the four schools. To facilitate the work of the teacher-researchers in their schools, a person from each school's senior management was appointed to liaise between the university and the school. In addition, we reported in writing to the school principals each year, and the final meeting in November 2006 was an opportunity to present the project and findings to the principals, liaison teachers, and other guests.

This project was conducted according to the provisions of the University of Auckland Human Participants Ethics Committee (Reference 2004/456). All participants (teachers and students) were provided with participant information sheets and completed consent forms. In addition, the school principals completed a school consent form on behalf of the school. These forms, the meeting and focus group transcripts, and all of the evaluation sheets and questionnaires are held securely at the University of Auckland and will be destroyed after six years.

Teacher action research

Action research is an umbrella term used to describe a form of applied research that seeks to integrate research and practice with the intention of improving practice (Cardno, 2003; Schwandt, 2001). As a particular approach to undertaking research, it has as its focus the details and problems of professional practice. Proponents of action research have argued that through an iterative and cyclic process of problem identification, action, observation, and reflection, practitioners can be assisted to describe, theorise, and change selected aspects of their practice in a supportive manner (Altrichter, Posch, & Somekh, 1993; Cardno, 2003; Elliot, 1991). During the first year of the project, a key task for the teacher-researchers was to develop and implement a data collection tool or instructional activity that could provide them with greater insight into their students' conceptions of assessment and feedback. This was seen as way in which teacher-researchers could engage in the iterative and cyclic process described above. This experience of engaging in action research formed the basis for the teacher research projects that would be carried out in the second year of the project.

The teacher-researchers engaged in individual projects that addressed a question of interest to them regarding assessment and feedback. Table 1 provides an outline of these projects, including the tools that were used.

Table 1 **Topics, aims, and tools used by teacher-researchers in action research**

Topic	Project aim	Tool
Close reading	To find out if students understand close reading terminology and to improve students close reading skills	Anonymous post box/drop box
Accuracy in writing	To find out whether grammar, punctuation and spelling (GPS) skills are inhibitory to student writing and improve students GPS skills	Questionnaire
Types of assessment & feedback	To find out what type of assessment and feedback students most prefer and most dislike	Priority diamond
Format of grade	To find out students preferred type of feedback (grade, percentage, NAME)	Trial of different feedback and followed by an evaluation
Creative writing	To find out the effectiveness of creative writing tracking sheet	Tracking sheet and evaluation
Effectiveness of feedback	How do students react to feedback forms on their work	Feedback form and evaluation
Goal setting to improve performance	To encourage students to set goals, show them a pathway to improve and measure the success	asTTle progress reports

Comments and suggestions

A major achievement of the project was to help the teacher-researchers to realise that research in their classrooms did not have to be on a large scale nor address all aspects of a research problem identified in the literature. Rather, they should seek to satisfy their curiosity about an aspect of their role as a teacher or in their teaching, and find ways of involving the students in answering this question. Starter prompts such as "I have often wondered if …" or "why do my students …" or "when I do this, it seems to result in …" can provide the stimulus for an action research exercise. Furthermore, their research does not have to involve complex experimental design. A focused study in a natural setting can provide important answers to how students perceive the environment they share with their teachers. With guidance, what seem like trivial issues can be explored and investigated to inform and potentially change teaching practices.

At the end of the first year of the project, two of our teacher-researchers told us that they were unable to commit the time to the project. Despite our efforts to retain them in the project, they remained resolute and withdrew. These teachers had demanding teaching loads and simply did not have time to take on anything extra.

In Milestone Report 6, we noted how it was important to take into account the realities that teacher-researchers face in meeting their obligations as classroom teachers and as teacher-researchers. We "lost" two of our team, as they felt that they were unable to do justice to their involvement in the project while preparing for and teaching five classes a day along with the associated marking and reporting. In addition, they felt that they were not maintaining a satisfying and satisfactory balance between work and their family life.

The literature on becoming a teacher-researcher is not silent on this issue—it is well documented. The purported benefits (enhanced practice and professionalism, deepening of subject knowledge, the strengthening of teaching and classroom skills, and the personal challenge and refreshment) need to be counterbalanced by the day-to-day challenges that classrooms present.

A recent report to the General Teaching Council for Scotland (Robson & Borthwick, 2004) noted that up to 10 days of class costs had to be provided to ensure that the teacher-researchers could devote the time necessary to their small-scale research projects, and that even with that provision, the team members needed to develop excellent time management skills to maintain their focus.

In discussing the transition from teacher to researcher, Labaree (2003, p. 18) commented:

> The job [of the teacher] is to teach the required curriculum to the assigned students at an appropriate level of effectiveness, and this leaves no time for carrying out research. Under these circumstances, teachers can do research only if they add it on top of their existing work, which would place an unfair burden on them because of the heavy load they already bear, or if they do research at the expense of their teaching duties, which would unfairly deprive their students educationally. Realistically, then, moral and occupational constraints limit the time and intellectual effort that teachers can devote to research.

The resolution of this role conflict (Pressick-Kilborn & Sainsbury, 2002) is a critical element in the success of an action-research based project such as this. To this end, in order to help foster closer team relationships and provide further support to the remaining teacher-researchers, we set up an informal mentoring scheme in the second year of the project. Each teacher-researcher was assigned a researcher to work with and develop their action research plans. The mentor kept in semi-regular contact with the teacher-researcher and the pair met at the beginning of each team meeting to discuss their project and for the mentor to give one-on-one feedback and support. This mentoring arrangement worked well for both the researchers and the teacher-researchers.

The teacher-researcher journeys

Teachers talking to teachers can be a powerful vehicle for effecting changes in practices and beliefs (Pennell & Firestone, 1998; Little, 1982), and the journey of each of the teacher-researchers paints a rich and varied picture of their exploration of assessment and feedback. In order to capture this rich picture, a number of data sources were used. These included:

- the audio-taping of each of the group sessions held with the teachers over the course of the two years of the project. Data captured during these sessions provided insight into the nature and scope of the each individual research project (both the trial conducted in the first year and the projects carried out in the second year); methodological issues and challenges experienced by the teacher-researchers; and ways in which challenges and issues were faced and addressed;

- anonymous evaluations completed by teacher-researchers after each of the sessions, which provided further insight to the points noted above, as well as providing feedback on how sessions were meeting the teacher-researcher needs and how subsequent sessions might be structured;
- semi-structured interviews undertaken by the research team at the end of Year 1 to document the aims, methods and outcomes of each individual teacher's Year 1 trial project and to capture their views of the research process to date;
- semi-structured interviews conducted at the end of the project by an independent researcher to ascertain teachers' views of the process and their overall involvement in the project.

The three components of Miles and Huberman's (1994) framework for qualitative data analysis were used to analyse all qualitative data—data reduction, data display, and drawing and verifying conclusions. During data reduction, the data were edited and summarised; coded and recorded; conceptualised and explained. The data were then displayed in chart form. During these two phases, conclusions were drawn and verified with both authors presenting and defending ideas and supporting or challenging those of the other author.

In 2007, we will seek to publish the stories of each of the teacher-researchers and the technical reports from the studies conducted by the university researchers, perhaps in a manner similar to the PEEL project in Australia (Baird & Mitchell, 1993) or as a series of *set* articles.

Comments and suggestions

We initially encouraged the teachers to keep a diary of their thoughts and feelings about their journeys as teacher-researchers. Although some teachers indicated that they would do this, this was not easy to sustain. However, we found that taping the meetings (especially the teachers' progress reports), conducting interviews, and using feedback forms at the end of meetings were effective ways of capturing the teachers' ideas, concerns, and suggestions as their research progressed.

Development of a questionnaire to identify students' and teachers' conceptions of assessment and feedback

This type of research is founded on well-established principles of survey opinion research which assumes that participants' real opinions are adequately captured by the inventory statements and that their responses genuinely indicate their real conceptions. The research depends on sophisticated exploratory and confirmatory factor analytic techniques and assumes that the mean factor or scale scores and factor intercorrelations validly represent the strength and structure of participants' conceptions. When factorally-confirmed conceptions are mapped to achievement scores with structural equation modelling, it is possible to infer how attitudes are related to

performance, provided the model has robust fit to the data and the dataset is sufficiently large to permit such analysis.

The following methodologies were employed.

Questionnaire administration

In the first year of the project, Brown's (2004, 2006a) Teachers' Conceptions of Assessment inventory was used to determine teachers' conceptions of assessment, with results reported in Brown, 2005. In the first and second years, two forms of the Students' Conceptions of Assessment inventory were administered to ascertain the structure and strength of the students' conceptions (Brown & Hirschfeld, 2005; Brown, 2006). These two forms built on earlier versions used to study students' conceptions of assessment related to mathematics (Brown & Hirschfeld, in press a) and reading (Brown & Hirschfeld, in press b) achievement.

Student focus groups

Brown's survey questionnaire work on students' conceptions of assessment is promising, and reasonably robust. Further research, grounded in the student voice, was sought to ascertain students' thoughts on the purpose of assessment, and ensure that the range of factors and items were valid and sufficient. Similarly, little was known about students' thoughts on the purpose of feedback and therefore in the first year of the project, five focus groups were conducted to identify students' conceptions of assessment and feedback (Peterson & Irving, in press). The results of these focus groups were used to develop and extend the range of items and factors covered by the research inventories.

Teacher focus groups

Two focus groups were also held with the teacher-researchers to identify their conceptions of assessment and feedback and to find out what they thought the students thought about assessment and feedback (Irving & Peterson, 2007).

Questionnaire modification and design

The student focus group data was then used to modify Brown's students' Conception of Assessment inventory for students and to design a new Conception of Feedback questionnaire. A further questionnaire on students' conceptions of learning was also developed that combined findings from the student focus groups with previous research by Hattie and Purdie (2005). These questionnaires were administered to all students in the teacher-researchers' target classes at the beginning of the second year of the project. The questionnaire data were then analysed, poor fitting items were either replaced or altered, and the questionnaire was re-administered at the end of the second year.

Development of a nationally representative survey of student conceptions

The sample sizes for the students' conceptions inventories have been marginal and further development of the instruments is under way with funding from the University of Auckland Faculty of Education Research Committee and the School of Teaching, Learning and Development Research Committee, to generate a national profile of secondary students' conceptions of assessment, feedback, and learning. This new questionnaire has been administered to a nationally representative sample of more than 800 secondary students. These data from this spin-off project will be analysed in 2007.

Comments and suggestions

Throughout the process of designing and administering the questionnaires on students' and teachers' conceptions of assessment, feedback, and learning, we have kept the teachers informed. In particular, we have discussed in our meetings, and received their feedback on, our interpretation of the focus group data and the questionnaire items. We have also given the teachers anonymous feedback on their own questionnaire data and that of their students. We felt it was important to keep this anonymous in order to encourage honest responses from both the teachers and students.

In order not to overburden the teachers, we administered the student questionnaires, giving the teacher a period of relief from classroom teaching. This was warmly welcomed by the teachers.

3.   Project findings

Teacher action research

The teacher action research projects covered a variety of topics (see Table 1). These projects led to considerable learning for the teacher-researchers. There has been learning associated with teachers' understandings of the nature of assessment and feedback as well as professional learning associated with teachers' understandings of their students' conceptions. There have been self-reported changes to their classroom practices and improved learning outcomes for students.

A detailed report of each teacher's action research project and their specific findings is given in Appendix 1. These reports cover the following questions and were written by the teachers with assistance from their mentors.

- What did I want to know or explore or find out more about? What was it about feedback or assessment that I was interested in?
- Why was I interested in this? What motivated my research?
- Who did I do my research with—what students, how many, what teaching?
- What did I find out?
- What does this tell me and other teachers about the problem I was exploring? OR What can other teachers learn from this?
- How much time did all of this take and from where did I get the time?

The teacher-researcher journeys

Teachers cannot be considered a homogeneous group. In any situation where a group of people come together to make changes to their practice through individual and collective endeavour, it must be recognised that "the trajectory for individual teachers … will differ because starting points will vary, as will beliefs, wishes and efforts of those embarking on such changes" (Black et al., 2003, p. 57). Even with a small sample such as the one for this project, it is clearly evident that teachers embarked on the project with different levels of commitment; different understandings about assessment and feedback; and different views of research and insights into their expected role in the research process. While some were motivated volunteers, others were not. Differences among teachers led some to take an active stance to learning to be a teacher-researcher whilst others were more passive in their approach. Some were more receptive to the ideas of others and showed a greater willingness to take advice. Despite these differences, all

11

remained in the project during its first year, albeit with different outcomes achieved by the end of that year.

This raises the question of what enabled teachers to make the transformation from teacher to teacher-researcher?

First and foremost, the investigations that teachers carried out were grounded in their classrooms and in their discipline, and involved their students. Essentially, each classroom become a powerful context for teacher learning (Borko, 2004), and provided the momentum for teachers to persevere with the task at hand. The development of a tool to gain insight into students' conceptions of assessment and feedback allowed teachers to re-structure a familiar situation (their classrooms); examine that which had previously been hidden (students' viewpoints); explore students' perceptions in some depth (their understandings and beliefs about assessment and feedback), and gain new insight (into these understandings and how these may help student learning). Given that the majority of teachers want the best for the students they teach (Guskey, 2002), gaining insight into students' conceptions appeared to stimulate teachers' professional curiosity and generate feelings of excitement (Rudduck, 1985). For some of the teachers, self-reported changes in the nature of the interactions between themselves and their students was an additional impetus to continue. This is not surprising given the work of Guskey (2002), who has argued that teachers are motivated by practices that yield improvement in student learning.

Secondly, the importance of the teacher meetings cannot be underplayed in regard to supporting the teachers to make the transformation from teacher to teacher-researcher. They were the critical forums where professional dialogue between all project members was fostered. During these meetings, the teachers engaged in substantive discussion about both assessment and research. Further, the meetings afforded teachers with the opportunity to voice doubts about any professional problems they might have experienced in regard to either the research process itself or any aspect of assessment that warranted attention. Essentially, they provided the teacher-researchers, to varying degrees, with some appreciation of, and opportunities to learn about, a community's practices, vocabulary, and knowledge (Lave & Wenger, 1991).

The teachers in this project have just begun their journeys as teacher-researchers. As expected, the complex tasks of learning research skills and carrying out this research in the context of their regular, multi-dimensional roles as teachers has proven challenging and demanding. The more experienced researchers in the project team have scaffolded the teachers' growing research expertise, both individually and within team meeting settings. The team meetings and one-on-one discussions have provided opportunities for "interaction between prior and new knowledge" (Richardson, 1997, p. 3) in ways that have contributed significantly to the teachers' understandings of research processes and the implications of their findings. There has been a development of a community of practice (Wenger, 1998) where the search for meaning is a shared endeavour.

Even with support available from experienced researchers, the teachers have found the planning and analysis stages of the research project particularly difficult. As with many beginning

researchers faced with the complexities of research (Wolcott, 2001), these teacher-researchers have struggled at times to refine their research questions and to design studies to fit these. At all stages, most of the teacher-researchers have expressed some doubt as to their ability to contribute significantly to the project. However, at the end of the first year the teachers in this project had recognised the fruitfulness of this endeavour and were beginning to realise that they had begun the transformation from teacher to teacher-researcher, albeit a considerable challenge (Handscomb & Macbeth, 2004). The teachers have moved along this pathway at very different rates. Some were slower to start; others were enthusiastically planning and generating data from an early stage. Some addressed the tyranny of time and multiple professional demands more easily than others. Some required considerable support in analysing and interpreting the data; others handled the data with confidence and were quick to see the implications of the findings for their practice. All had realised the power of research to inform their practice.

Overall, the main findings from the analysis of the journey to becoming a teacher-researcher are listed below:

- Teacher-researchers' initial understandings of the research process were restricted and limited with regard to knowledge of research designs; how to establish a workable research question, and how to generate and analyse data. Also their understandings about research-related issues such as validity, reliability, adequacy of data, and researcher bias were negligible.
- Teacher-researchers needed a lot of support during team meetings and individually from the university team to assist them to work through these issues. In two instances, these were not resolved.
- Without support from the university researchers, it is doubtful that any of the teacher-researchers would have planned and implemented a piece of small scale research.
- Engagement in academic reading related to research, assessment, and feedback, although considered important, was challenging for the teacher-researchers. Nevertheless, several of the teacher-researchers used something serendipitous from one of the provided readings as the basis of their research.

The teachers also perceived multiple benefits from being involved in the study, as listed below:

- Teachers perceived that their understandings about the processes and purposes of assessment and feedback had increased.
- Teachers perceived that they had adopted a greater variety of teaching strategies to elicit student understandings, not only of assessment and feedback, but also in regard to curriculum understandings.
- Teachers perceived their use of formative assessment and feedback to students was stronger than before their participation in the project.
- Teacher felt that they engaged with students differently—in a more in-depth manner.
- Teacher believed that they viewed students differently. Student responses had shown teachers that they took the acts of assessment and feedback far more seriously than teachers had given them credit for.

- Some teachers felt they had increased expectations of their students—they now asked students to become more reflective about assessment results and feedback suggestions, and asked them to take more responsibility for their learning.
- Most teachers felt they were more knowledgeable about their students—they gained greater insight into students' understandings of assessment and feedback and they had gained insight students' learning needs.

The questionnaire development

The CAF project led to or extended the development of three questionnaires:

- conceptions of feedback;
- conceptions of learning;
- students' conceptions of assessment.

These questionnaires have the potential to provide teachers with a simple way of identifying their students' conceptions of assessment, feedback, and learning, so that any less effective conceptions can be identified.

Our focus on New Zealand secondary students' conceptions of assessment and feedback was particularly timely, as New Zealand's ethnic and cultural mix is changing. While the proportion of those who identified themselves as New Zealand European increased by 3 percent over the past decade, there has been a 21 percent increase in Maori, a 39 percent increase in those claiming Pacific Island ethnic identity and 142 percent increase in those identifying as Asian (Statistics New Zealand, 2004). This change in New Zealand's ethnic and cultural landscape means students are entering our secondary schools with potentially more diverse conceptions of what assessment, feedback, and learning are, and these views are likely to affect the way they engage with learning and instruction.

We outline below the findings from our conceptions questionnaires.

Students' conceptions of feedback

The five student focus groups sought to tap student beliefs and understandings around three key aspects of feedback (in parallel with assessment)—definition, purpose, and personal impact/response. The students felt that feedback was the link between assessment and learning, and that it did not stand distinct from either. In addition, they were clear about what counted as feedback, and what did not. The nature of the feedback they received also had an effect on their views of the assessment, especially whether the assessment could be considered as irrelevant.

The data from the focus groups was used to develop 55 items for a conceptions of feedback instrument (CoF-I), which was piloted with 256 students. Exploratory and confirmatory factor analysis of data from the pilot study revealed the presence of six different components: "feedback

comes from teachers"; "feedback motivates me"; "feedback provides information"; "feedback is about standards"; "qualities of good feedback"; and "help seeking". The fit of the model was marginally acceptable (χ^2 = 1139.54 ; df = 587 ; p = .000 ; TLI = .78 ; CFI = .80 ; RMSEA = .067). In addition, Samejima's Graded Response model was used to select items with optimal measurement characteristics for a second administration with a larger sample.

In a second survey to provide data for a more robust structure, the 47-item CoF-II has been administered to over 800 students from a nationally representative sample of New Zealand schools. Furthermore, the CoF-II responses of a further 250 students together with standardised measures of their learning (asTTle scores in reading or mathematics) will enable us to use structural equation modelling to determine the effect of differing conceptions on student learning outcomes. This second study has been made possible through additional funding from the University of Auckland Faculty of Education.

Students' conceptions of learning

The CAF project did not set out to identify students' conceptions of learning. However, analysis of the five secondary student focus groups on their conceptions of assessment and feedback revealed that the students saw learning as an integral part of these processes: learning is assessed, which leads to feedback, which leads to more learning which is ultimately re-assessed. In other words, students' comments about learning and their understanding of what learning means were inextricably woven into their discussions on assessment and feedback in these focus groups. While some of the students' conceptions of learning were similar to those identified in the Purdie and Hattie (2002) Conceptions of Learning inventory, there were also important differences. These differences laid the groundwork for our study and the development of a new questionnaire.

A conceptions of learning questionnaire was developed by combining 43 new items extracted from our focus groups with 15 items from Purdie and Hattie's (2002) Conceptions of Learning inventory. The pilot questionnaire was administered to 236 secondary students in the CAF project. The pilot data were analysed using Multilog in order to remove items with poor discrimination. The data were then analysed with maximum likelihood factor analysis with oblique rotation and confirmed with measurement and structural equation models.

The pilot questionnaire found seven inter-correlated conceptions of learning among 236 secondary school students. The fit of the model to the data was marginal (χ^2 = 1819.24; df = 810; p = .000; TLI = .72; CFI = .73; RMSEA = .077). As for Purdie and Hattie (2002), the conceptions of learning identified included knowledge gain; using information; understanding; and personal and community growth. New factors were also identified, namely learning as an ongoing continuous process; learning requires effort; and learning as developing knowledge objects. This new model of students' conceptions of learning is promising. However, a larger sample is needed to provide more robust findings in this area. A subsequent grant from the University of Auckland Faculty of Education has allowed a nationally representative follow-up survey of more than 800 secondary students on the CoL-II. These data are yet to be analysed.

Conceptions of assessment

Both teachers and students in our project have been surveyed using the appropriate conceptions of assessment inventory. Brown (2004) had previously surveyed primary sector teachers, and this project enabled him to extend the process of validation, and draw some comparisons between the primary and secondary sectors. Similarly, previous surveys of high school students (Brown & Hirschfeld, in press a; in press b) were amplified through this project.

Inventory of teachers' conceptions of assessment

The results from the participating teachers at the start of the project exhibited what may be taken as a sector effect—that is, primary and secondary teachers did not conceive of assessment in identical fashions. The CAF teachers, like their primary teacher colleagues (Brown, 2004), had very similar levels of agreement for "improvement" and "irrelevance" conceptions of assessment. Where they differed was around accountability uses of assessment. The secondary teachers tended to agree that assessment was more about student accountability rather than school or teacher accountability, while primary teachers conceived of assessment as making themselves accountable rather than their students. This result may not be surprising and seems in keeping with the view that, in secondary schools, high stakes assessment increasingly places a substantial portion of the responsibility for learning in the hands of the students. What is surprising is that the difference between the primary and secondary sectors was noticeable only in the area of accountability; this is highly suggestive for future research programmes. It may be that every teacher can agree with "improvement' and tends to disagree with "irrelevance" conceptions of assessment—what they seem to differ on is the locus of accountability—the teacher or the student.

Students' conceptions of assessment inventory

Brown's student version of the Conceptions of Assessment inventory (Brown & Hirschfeld, 2005) was slightly modified based on the findings from the five CAF project focus groups. This revised version was then administered to 236 Year 9 and 10 secondary students in the second year of the CAF project (Brown, 2006). Six inter-correlated conceptions of assessment were found. Their conceptions were classified according to who used assessment (i.e., the students personally, their teacher, or the public) and the effect of assessment (i.e., irrelevant, fun, or making accountable). Students agreed between moderately and mostly with the conceptions that assessment makes students accountable, that students use assessments, and that teachers use assessments. They were in moderate agreement with the conception of public or future use of assessment, slight agreement that assessment was fun, and rejected the conception that assessment was irrelevant. These values were largely consistent with those found in the smaller study in the first year of the project.

Students' conceptions were largely independent of the types of assessments that students associated with the term "assessment", though there was a weak association with the interactive assessment type and that assessment is fun. This may suggest that students perceive beneficial

formative assessment activities such as self-evaluation, peer-assessment, and assessment conversations as fun activities which they tend to disagree with and which earlier analyses (Brown & Hirschfeld 2005; in press a; in press b) have indicated are associated with lower levels of achievement. In other words, highly interactive, formative assessment practices were seen as fun but reduced student achievement, perhaps because students did not respond actively to, or were unable to access, the information available through such interactions.

Student outcomes data were not available in the second year of the study, but they were available in the first year of the study (Brown & Hirschfeld, 2005). We argued that students' own responses to the conceptions of assessment inventory indicated that students who were more self-regulating (i.e., used assessment to take responsibility for their own learning) generally achieved more on asTTle educational measures. These results suggested that students who see assessment as a constructive force for personal responsibility gained higher scores, while those who sought to "blame" schools or teachers for assessment results, those who did not take assessment seriously, or who ignored assessment received lower scores.

The revised version of the student conceptions of assessment questionnaire has since been administered to more than 800 secondary students. The data from this nationally representative survey will be analysed in 2007. It is anticipated that this large sample will allow the factor structure of the student conceptions of assessment questionnaire to be confirmed.

4. Limitations of the project

Teacher action research

Each of the teacher-researchers was free to explore a question of their own interest and the individualised nature of these projects therefore limits our ability to generalise across a variety of contexts (e.g., school types, curriculum subjects, levels of teaching experience, assessment practices, year level, and so on). The action research projects would need to be repeated in a range of other schools, contexts, and with more students, before the findings could be generalised.

The teachers involved in the study came from schools representing a wide range of decile rankings (9, 4, 4, and 1). Teachers' perceptions of the differences in school context and student population demographics may have been a barrier in regard to using some of the ideas presented by other teachers, although on several occasions one teacher would remark to another that they had "tried that idea and it was good".

This study has also highlighted how the TLRI values of creating a teacher-researcher partnership, building capacity, and having an effect on teacher practice is not an easy process. As noted in Section 3, teacher-researchers' understanding of the research process is often restricted and they need considerable support to assist them in their development as action researchers. This support needs to come not only from experienced researchers, but also from the school (principal and colleagues) and their students. In particular, teachers need to be given the time to participate in such initiatives and the flexibility to try new initiatives within their classrooms. Without this support, participation and commitment to projects such as this is difficult.

As one teacher said:

> As a fulltime teacher and assistant dean with three young children and a husband who is often away ... getting to school each morning was a minor miracle in itself. During the day, I teach four periods out of five, spend the other periods sorting out issues that can range from lost shoes to sexual abuse. After any number of meetings after school, I then pick up my own three children and take them to their activities, help with homework, cook dinner and on the story goes. Anyway, the point is that I do not have time to do much else and whatever I choose needs to be meaningful, manageable, and relevant to me in as many spheres of my life as possible.

> ... I believe that an important part of my success is that I had the support from the English department and school. I am lucky that the school shares my philosophy about teaching and without this support it would have been more difficult for me to continue with the action research.

Teacher-researcher journeys

Our documentation of the process by which the teachers learnt to become researchers is restricted to eight teachers. The teachers came from schools representing a range of deciles. While this variety provides a good range, more teachers representing each decile would have been preferable. The teachers were also drawn to the project for different reasons. Our initial collaboration was with schools' senior managers. They recruited the teachers into the project. In several instances, teachers joined the project with a limited understanding of the nature of their involvement. Others joined because there were no other teachers available in their department. These factors, along with personal factors, did affect commitment to the project and the subsequent outcomes. Future studies should, where possible, consider controlling these factors to enable their findings to be generalised.

Drawing two teachers from each secondary school but from different subject areas was not necessarily helpful. We believe it would have been more supportive and beneficial if two teachers from the same subject area had been drawn from each school.

The questionnaire development

Focus groups

We conducted five focus groups with Year 9 and 10 students to assess their conceptions of assessment and feedback. In order to see if students in different years have similar conceptions, ideally we would have run focus groups with students in Years 11 to 13.

Some of the students in the focus group knew each other from either their mathematics or their English class. Focus group experts believe that focus groups are best conducted when the participants do not know each other (Krueger & Casey, 2000) so that they are not discouraged from giving their opinions or disagreeing with friends. While the students in our focus groups were not necessarily friends, half of them at least knew each other by name, and this familiarity may restrict the discussion.

Teachers' conceptions of assessment inventory

The sample in this study was highly unrepresentative of New Zealand secondary teachers. The effect of the qualifications or certification pressure of secondary school on teachers' conceptions of assessment is not unexpected. A separate study in Queensland using the same instrument found that secondary teachers there were more committed to the student accountability conception of assessment (Brown, Lake, & Matters, in press). However, these results require confirmation from a large and representative sample of New Zealand secondary teachers, which is being planned by Brown in 2007 with support from the University of Auckland New Staff Research Fund.

Students' conceptions of assessment, conceptions of feedback, and conceptions of learning

These studies have limitations due to the nature of the sample and the instrument.

The sample size in all the CAF studies was small and unrepresentative of New Zealand secondary students, as they are drawn from just eight classes in four urban schools. Sample sizes of less than 250 obtained from the teacher-researchers' classes are marginal for the type of factor and structural analysis conducted on questionnaires of this length. Furthermore, the small sample size prevented the firm identification of the sub-factors. This concern is being addressed in our nationally representative survey that uses all three modified instruments with more than 800 students.

Good survey design requires about five items per aggregated factor to reduce chance effects. The questionnaires do not have sufficient items for all factors (e.g., "assessment is fun" currently has only two items).

Given the small sample sizes, the findings from the questionnaires are tentative but extremely intriguing and potentially powerful. In addition to more items and more participants, the strength of these findings would be enhanced through multi-method studies (e.g., think-aloud and observations of practice) to determine the relationship of conceptions to practices and outcomes.

5. Building capacity and capability

Teacher action research

Research has shown that students seem to learn more when they know that teachers understand their perceptions (Bishop, Berryman, Tiakiwai, & Richardson, 2003). Certainly the development of tools and teachers' engagement in a wide range of projects has provided them with deeper insight into students' perceptions of assessment and feedback.

The collaborative development of instructional activities by the teacher-researchers and the university researchers to identify students' different conceptions of assessment resulted in improved communication between teachers and students—they served to open up communication pathways. For two of the teacher-researchers, this extended beyond the sphere of this project to include other teachers and researchers—they presented findings from their studies to national conferences and schools' professional development meetings (Hellyer, 2006; McKay, 2005).

The teacher-researchers' journeys

As Black et al., (2003) noted in regard to the teachers they worked with who were implementing a range of formative assessment strategies and practices, each followed *"different trajectories of change—so that not only their starting points, but also the routes they travelled were different."* (p. 83). This was the case in this project. Teachers' engagement in small-scale research projects, grounded in their personal interests and needs, enabled them to gain insights into not only their students' conceptions but also their own conceptions and how these played out in practice. These insights provided the impetus for self-reported changes to practices in a number of instances.

The questionnaire development

It is presumed that the production of robust measures of conceptions of assessment with New Zealand norms, and understanding of how those conceptions relate to practices and outcomes, will have benefit for New Zealand teachers. The Teachers' Conceptions of Assessment inventory is already available for use from Dr Brown's website (http://www.arts.auckland.ac.nz/staff/index.cfm?S=STAFF_gbro008) and it is anticipated that the student instrument will be released in the same way once the nationally representative survey is completed. It is expected that once we

understand how conceptions relate to outcomes, innovations in professional development can be experimented with.

6. Publications from the project

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Appendices

Appendix A: Teacher action research reports

Students' perceptions of the value of different types of teacher feedback

James Bashford

1. Aim of this project within the wider TLRI: Conceptions of Assessment and Feedback project

Since the introduction of NCEA, I have often wondered about the depth of the feedback offered using only the four grades Not Achieved (N), Achieved (A), Merit (M), and Excellence (E) or NAME for short.. I really wanted to find out what students thought about it and whether such feedback did provide enough evidence of "where to next" for the students.

Also, part of the concept of standards-based assessment is that students have a clear expectation of what it is that they need to be able to do. I wanted to know if this was actually the case. Would students have the knowledge of what they needed to improve on just from the NAME grade—or would they still need a comment to help them?

2. What did I want to know or explore or find out more about? What was it about feedback or assessment that I was interested in?

My interest is in different types of feedback and feedforward, and which is most suitable/acceptable for the students and for me. This included looking at students' perceived value of the feedback and also the effect that feedback had on improving achievement. In the first year of the project, I looked at student's thoughts on whether they preferred marks or comments for feedback from teachers. I developed this idea in the second year of the project by also taking into account what students thought of the NAME feedback as opposed to percentages.

3. Who did I do my research with—what students, how many, what teaching?

I carried out this research project with a Year 10 Mathematics class of 24 students. Officially the group was a C-Band class which is middle ability in our department at a Decile 9 college. Our college is in the Eastern suburbs of Auckland and has a high proportion of students from China, Taiwan, and Korea. The Year 10 class that I started with had around five international students placed in it who were new to the school. They were placed in this middle group as we had little idea of their mathematical ability. More new students to the college were added during the year as others left and it has ended up being a fairly mixed ability class.

4. What tools or resources did I use to investigate this problem?

Obviously to do this research I needed to give the students some assessments to give feedback on. I required planned formative assessment tasks that I could give specific feedback on, and then see what effect the types of feedback had on the student's improvement.

We have split our junior mathematics curriculum up into learning areas much like the Achievement Standards in NCEA. At the end of each learning area we give the whole year group

a common test. Leading up to these the students have a go at a practice assessment to help prepare them for these common tests.

So as not to give the students any extra assessment, and myself no extra marking, I decided to use these practice assessments as the planned formative assessment I needed. I would then be able to see if the different types of feedback had impacted differentially on the students' achievement by investigating the achieved grades in the common test.

I needed to decide exactly what the feedback would look like for each category. I decided to go with the following three types:

- percentages: here answers were ticked/crossed and then a percentage was given as may have been awarded in School Certificate Exams.

- NAME: answers were ticked/crossed and then the students were awarded an N, A, M or E.

- comments: here comments were given on the students work. These comments were based on principles as set out in Shirley Clarke's book *Formative Assessment in the Secondary Classroom* (2005). They are:

  – Students need to know the learning objectives of the task and then how far they have fulfilled them.

  – Students then need to know, in relation to the learning objective, what they could have achieved, or where to go next.

  – Advice about spelling, handwriting and so on should not be mentioned for every piece of work, or students will be overloaded with information and focused on the same few criteria every time.

  – They then need to be shown how to "close the gap" between current and desired performance. "Shown" in this context would ideally include an invitation to include the student's perceptions and strategies.

  – Finally, and most importantly, students need *time* to make the suggested improvement." (p. 76)

I wanted to collect ideas on the validity from the students' point of view as well as seeing if any particular type of the three listed above actually had more effect on student achievement than the others. To gain an understanding of the students' perceived validity I needed to come up with a questionnaire that I could give to students after they received the feedback. Along with the university researchers, we came up with a student evaluation form. The questions that the students were asked were:

I actually read the feedback   YES   NO (choose one)

> *I learned something useful about my mathematics from the feedback:*
>
> *The feedback told me what my strengths were*
>
> *The feedback told me what my needs were*
>
> *I understood the feedback I got*
>
> *I liked the feedback I got*
>
> *The feedback told me what I did wrong*
>
> *The feedback told me how to improve my mathematics*
>
> *The feedback told me something I didn't already know about my mathematics*
>
> *I will refer to this feedback as I study mathematics*
>
> *.   This feedback made me think about what I had to do next*

Possible options were: Strongly Disagree

> *Mostly Disagree*
>
> *Slightly Agree*
>
> *Moderately Agree*
>
> *Mostly Agree*
>
> *Strongly Agree*

Please comment on the effect of the feedback on your ability to do mathematics.

I wanted all students to have access to, and be able to give their thoughts on, all three types of feedback. I also wanted to avoid the problem of different types of feedback for different types of topics. Therefore I decided that I would split my class up into three groups of eight. In each of three assessments, the students in a group were given one particular type of feedback.

Common Test 1	Common Test 2	Common Test 3
Group A: Percentages	Group A: Comments	Group A: NAME
Group B: NAME	Group B: Percentages	Group B: Comments
Group C: Comments	Group C: NAME	Group C: Percentages

5. What did I find out?

Analysing the students' perceived value of the types of feedback

To analyse the student's perceived value I decided to rank the replies to the ten questions as follows:

1 – Strongly Disagree

2 – Mostly Disagree

3 – Slightly/Moderately Agree

4 – Mostly Agree

5 – Strongly Agree

These responses were all to positive questions about the feedback—therefore a high score relates to perceived value by the student..

I then simply found the average (Mean) response value for each question for each type of feedback. To do this I found the average student response to each question for each type of feedback.

These are shown in the graph below:

Score for Student Evaluation Questions
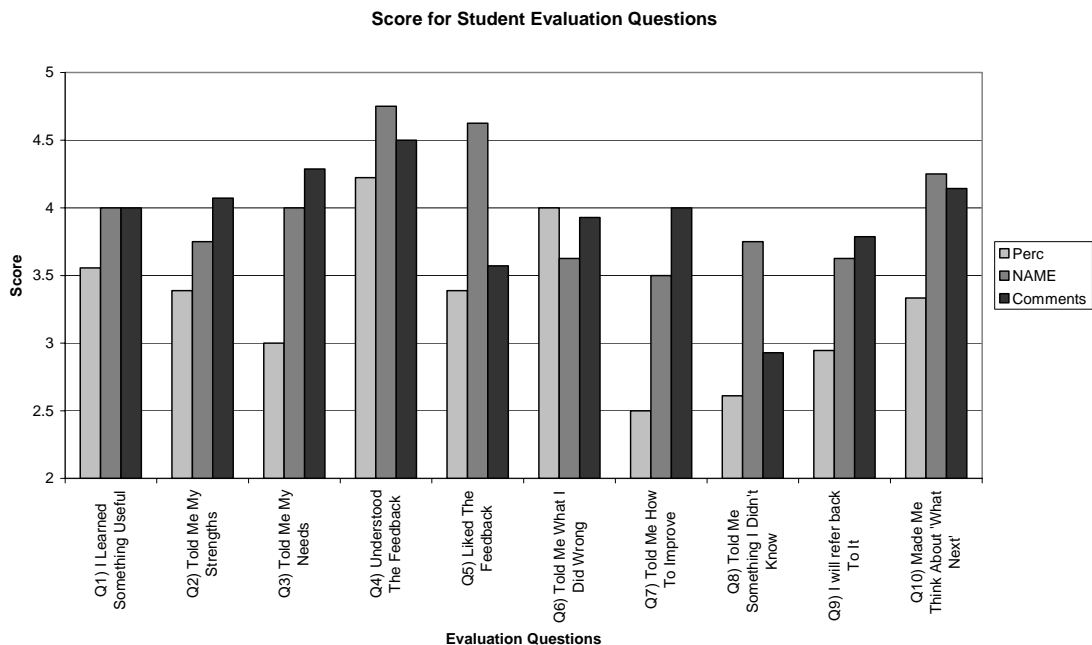
Obviously this analysis does not provide anything like concrete evidence. However, I think it is worth commenting on some interesting tendencies:

- Students perceived the percentages as giving them less feedforward as to what their needs were (Q3—slightly agree, and how to improve their Mathematics (Q7)—towards disagree.

- I was not expecting the NAME system to be as popular as it was. Indeed, in Q5, students clearly "liked" it better than either of the other two types by quite a long way.

- The only question that "Percentages; came out top on was Question 6 which was about whether the feedback told the student what they did wrong. I wonder whether this could be due to them perceiving a low percentages as indicating a global "what they did wrong" being seen as a fail rather than an "Achieved" which they see as a pass.

This could be looked at slightly differently by grouping the results by feedback method so that the different types can be compared more clearly.

Students Perceived Value of Feedback
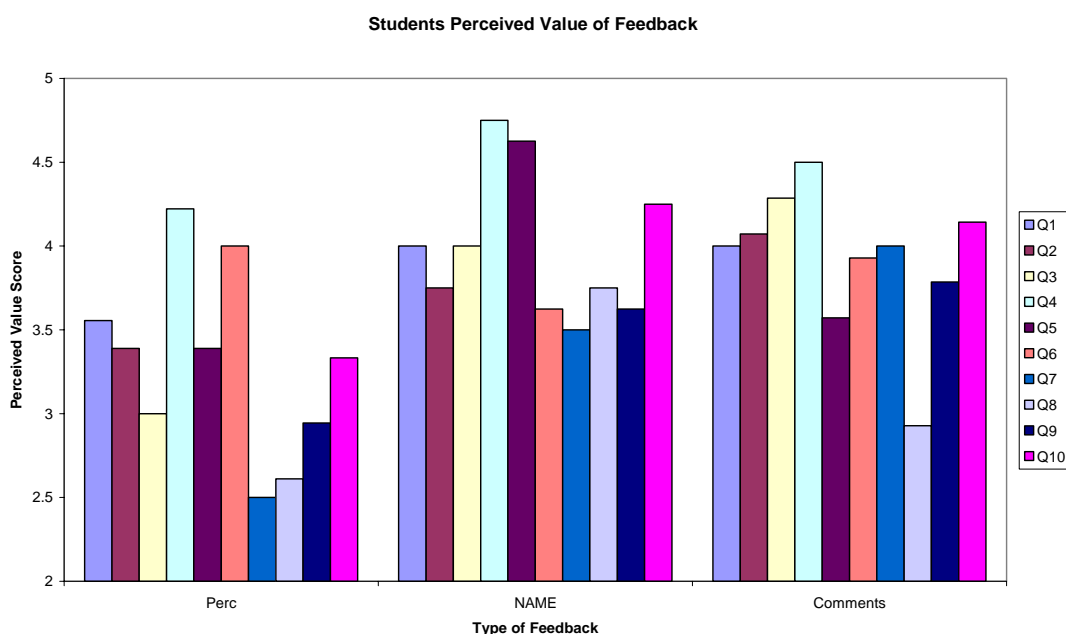
Here, from visual appearances, it becomes more evident that the NAME method appears the most popular overall.

Some of the comments, both written and spoken, suggested some reasons for the students' selection of this feedback approach as preferred :

> I like (the NAME) feedback because it is what we get marked on in a test and I'm used to getting marked like this.

> I like the NAME style of feedback it tells you what you got right and wrong easily and is quick and easy to refer to.

> (The NAME) feedback told me what I needed to study the most when I revised.

> I didn't like (the comments) feedback because it doesn't give me a grade so I can't compare how well I did.

> I like (the comments) feedback but I would like to know my mark. It is helpful to know what I need to improve on.

> Percentages and ticks don't really tell me anything. Just what's right and what's wrong. It doesn't tell me if I passed either. Comments and grades are better.

These comments suggest to me that the students are extremely keen on getting their "grade" to give them an idea of what to expect in the real assessment (the common test). This, obviously, is not really what the main intention is for formative assessment. This is something that I spoke about to my students at great length, after the data had been collected, which made for excellent class insight into the use of feedback itself.

Analysing the effect of the types of feedback on improving student's achievement

Analysing the strength of effect of each of the types of assessment on improvement between the practice assessment and the real assessment was much more difficult. Mainly because judging "how well students have done" is not so easy. Should we use percentage of questions correct? Should we use their NAME grade? Or should we introduce some other system?

First I decided to use a score generated by the number of questions correct at each standard (i.e. A, M & E). I weighted the questions so that Achieved questions were worth one, Merit two and Excellence questions three. This gave a weighted total. I then worked out the percentage of the highest possible score for the assessment. By doing this for the practice assessment and the real assessment I could then look at the increase mark. Averaging these across each type of assessment gave an average increase for each type of assessment between the practice and real assessment.

My findings were:

Type of Feedback	Average Increase	Standard Dev
Percentage	4.6	23.5
NAME	-1.3	22.2
Comments	3.5	23.4

These findings were quite unexpected to me. The idea that giving students feedback using the NAME system actually relates to a negative impact on their achievement is obviously very concerning. Also, I was interested to see that the percentages given to students might be related to a larger positive impact. Obviously with the small average increases and the large variation demonstrated by the standard deviations it is clear that these results may not have statistical reliability.

However, to offer a possible explanation, I did wonder whether students actually got a better idea of what they needed to get to "Achieve" the assessment after the practice assessment and then just concentrated their revision on these aspects—therefore reducing the number of questions that they got correct at the Merit and Excellence level. This would obviously decrease their score as the harder questions were worth more points in the way I have calculated the scores.

As an explanation of the high impact of the percentages, I wonder whether it was just the shock of the scores received from the practice assessments. Students often equate gaining "Achieved" with

a 50% score. However, many of my students, who would be used to gaining "Achieved" would have found that they were scoring around 30 to 40 percent from their percentage mark. I am sure that for many of them this will have scared them into putting in quite a lot of revision and preparation.

I decided that, as students would obviously be aiming to increase their NAME grade, perhaps I should look at their grade as a judgment of how well they had done. I therefore found the average increase in grade (using N → A = 1, A → E = 2, M → N = -2…etc) for each student and again averaged these across the different types of feedback. The results came out quite differently.

Type of Feedback	Average Grade Increase
Percentage	0.5
NAME	0.76
Comments	0.32

Clearly this tells a very different story where the NAME feedback is giving the biggest increase and comments the lowest. I decided that this made a lot of sense. While comments would show students how to improve at all levels, students would not know where to concentrate their revision at "Achieved" level questions, whereas if they had been given their feedback using the NAME system they are clearly going to know what skills to work on to "Achieve" the assessment.

So, which is better? Well, I guess this will always be the question. Do we want students concentrating on the easier questions to get a concrete foundation at "Achieved" level? Or would we rather they try to gain some of the more difficult skills as well?

I guess as far as students are concerned, they are looking to improve their grade—usually nothing more. So, it appears that, possibly, giving them feedback using the NAME system does actually highlight to them the correct areas to concentrate their revision to raise their grade.

It must be said that these reflections are based on a very preliminary study with a limited number of participants. The sample was of one class of 24 students. It was not possible to gain all the data from every student for every assessment (and therefore every type of feedback) so this may well have caused skewing of the results. A more rigorously controlled study with a larger sample of students is required before definitive findings can be declared.

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Students Conceptions of Close Reading and Challenging them to Move the Dial

Catherine Hellyer

This teacher's story of her journey as a teacher- researcher is one of tentative uncertainty to confident excitement; dependence on a more experienced researcher towards greater independence as a teacher researcher; a growing awareness of the value of gathering evidence about her students' achievement as a basis on which to defend her planning decisions; a developing tendency to engage her students in discussion about their achievement; and a growing consciousness of the interactive nature of feedback.

1. What did I want to know or explore or find out more about? What was it about feedback or assessment that I was interested in?

I was interested in trying to improve my students' close reading skills. My interest in this project started when I reviewed my class' first asTTle test. The results of the first close reading test were really, really appalling for a Decile 9 school: most of the students were below the New Zealand mean. I was quite concerned about that as I thought they were an average class. I didn't really believe them at first, so I checked their asTTle results against PAT scores and found that they were comparable and below what I expected for a decile 9 school.
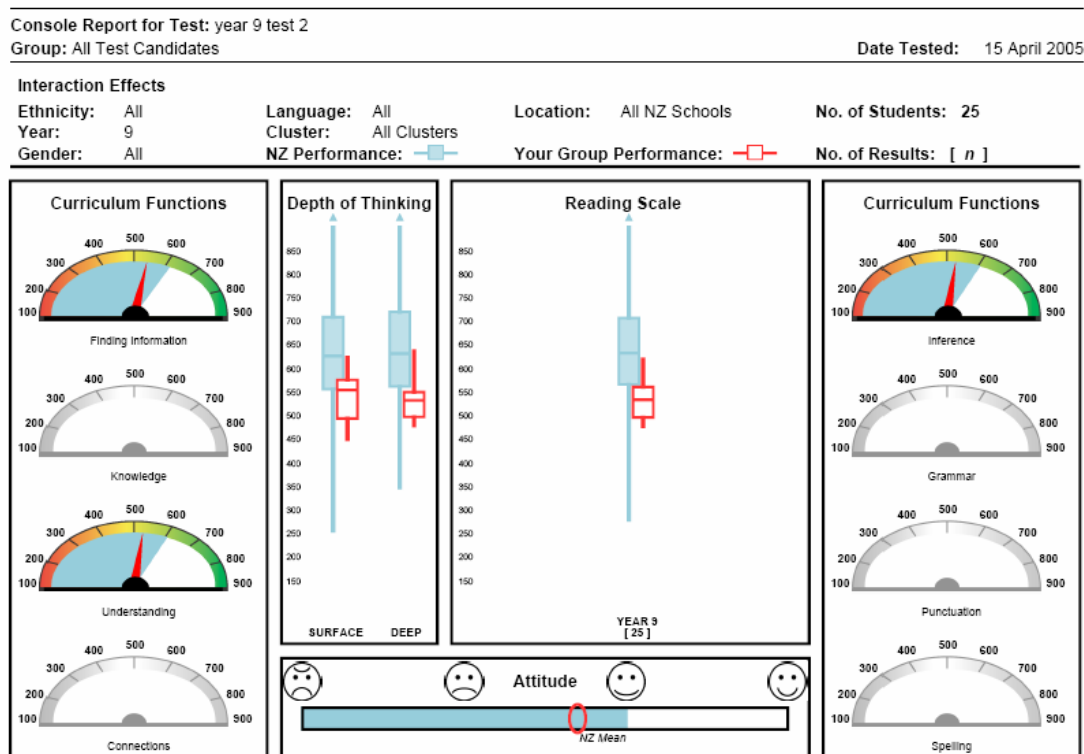

Figure 1. My class's performance (red) on their first asTTle test looking at information, understanding and inference compared to the NZ norm (blue).

With these results in mind, I decided to look at how feedback strategies might improve the students' close reading, but first I had to get the students' buy in. I started by giving the students a print out of their own asTTle scores. I then involved them in a discussion about their results and what these indicated about their abilities as readers and challenged them all to "move all their dials" (the dials show their asTTle scores) by the time they were retested in August. Every member of the class agreed that they would like to improve.

2. Why was I interested in this? What motivated my research?

We, as teachers, often get caught up in the curriculum achievement objectives and learning outcomes and often forget about the students' needs. This is particularly so at the senior level with the pressures of NCEA and when the consequences (or stakes) of assessment decisions are high.

When I discovered that my classes close reading results were lower than I expected I felt motivated to act. I feel that close reading is a vital skill and underpins much of what is done in this subject. To be an active and critical reader empowers students and enables them to negotiate their world with more insight and skill. I felt that if we were to pause and work on improving these skills, the students would then be better equipped to understand and cope with the remainder of the year's programme. It did mean "parking" some of the syllabus but it was a decision I felt justified in making.

My research design was in part motivated by the fact that we had discussed in our research team how students often interpret assessment and feedback information differently from their teachers and in a way that does not contribute to the improvement of teaching and learning. With this is mind, I thought it was important to find out my students' understanding of close reading concepts using a Post Box activity (described below).

3. Who did I do my research with—what students, how many, what teaching?

I chose to work with a Year 9 English class of mixed ability with an equal mix of boys and girls. The school is urban and is a decile 9 school. The students were predominantly Pakeha, but there were also two Maori, two African, three Indian, and two Chinese.

4. What tools or resources did I use to investigate this problem?

I used a variety of tools and processes in my action research.

1) asTTle test

I created a test using asTTle and selected the three areas I wanted to assess: finding information, knowledge, inference. I then selected the level I thought the class was working at and set the test to that level. The test was administered twice: once as a baseline and once after my intervention.

2) Post Box exercise

I set the students a series of questions about close reading. These included:

- What does "close reading" mean?

- What does the term "key words" mean?

- What might the terms "on the line", "between the line" and "beyond the line" mean in this context?

- Why might close reading be an important skill to learn

- Do you consider yourself to be a person who reads widely and regularly/

- What sort of feedback could a teacher give you that might help improve your close reading skills?

- How would you know if you were getting better at close reading?

- When you are reading either fiction or non-fiction do you spend time looking at the pictures or diagrams if they are included?

I asked the students to write down what they thought the answers to the questions were and to drop their answers in the boxes that were placed around the room. The task was done silently and anonymously.

The students then collated the responses in class. I found out that many of the students did not understand the conceptual language that I had been using for close reading and many of them did not enjoy reading.

As a result of the asTTle test and the postbox exercise, I decided to devise some new literacy strategies using Ministry of Education resource available in the school. I also tried to motivate my students by sharing my love of reading with them and discussing the adolescent fiction that I love to read. I also modelled reading in the library and promoted it as a worthy activity for both boys and girls. I encouraged the students to keep a reading log, which I monitored, and I discussed with them the power of "the story".

3) Intervention

I decided that the best way to improve the reading ability of the students was to hook them into reading with some high interest, short non-fiction texts that would appeal to adolescents. I began by activating student's prior knowledge so if the article was about girls and bullying, I put the two words on the board and asked students to contribute any words or ideas associated with the topic. By doing this exercise, students are thinking about what they will read in context.

The next strategy was to look at all the context clues given in the text that help students to understand what they are reading. They were asked to look at the title of the article, the pictures, the introduction and the subheading. They were then asked to predict what this article might be about.

I then read the article to the students and they followed along.

After reading it they were asked to RAP the article. Reread, Ask themselves what the main point of the article was and then Paraphrase or put it into their own words

I taught them word attack skills so that they could attempt the meaning of a word with which they were unfamiliar.

They were also given 3 level guide exercises so that they could differentiate between on the line, between the line and beyond the line questions.

We used a series of magazine and newspaper articles to practise these skills.

Literacy Strategies – Francesca Pouwer

Using some of the strategies from Francesca Pouwers literacy strategies and the Ministry of Education's literacy strategies, I devised a programme using high interest articles.

The three main strategies I used were as follows:

The Three Level Guide

This encourages students to link and think and to make inferences. The questions are designed so that students must make connections between the information in the text and then zoom out to apply these ideas to life beyond the classroom or make "big picture" connections. The questions get more complicated as they progress through.

The TIPPS Strategy

This encourages students to look for all the context clues before they begin reading the text: Title, Introduction, Pictures, Paragraphs, Structure, Questions.

The RAP Strategy

This is a way of ensuring that the students have understood what they read. The must read the text, Ask what the main points are and then put the main points into their own words.

5.   What did I find out?

In August, the students sat their second asTTle test, but I increased the difficulty of the test slightly. All of the students showed some movement up the levels and they were really excited that they had moved their dials (see Figure 2). They took this improvement really seriously and I encouraged the students to take their results to give some feedback to their parents. The students were happy to do this and they seem to value the clarity of the feedback information that the asTTle test had provided.
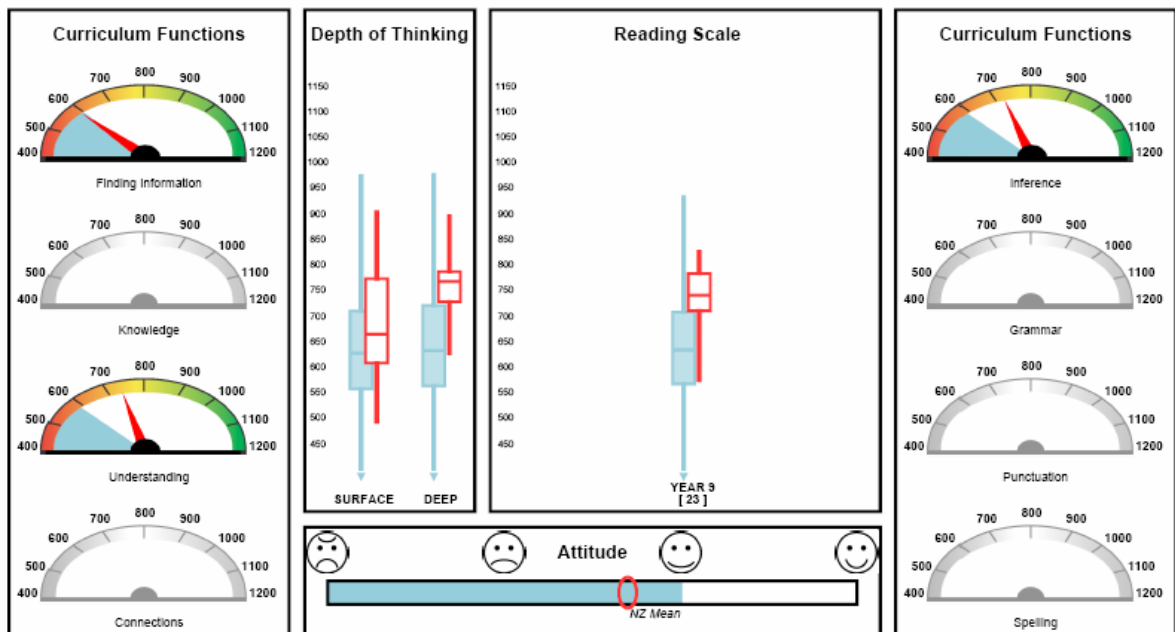
Figure 2. My class's performance on their asTTle test post my intervention compared to the NZ norm.

6. What does this tell me and other teachers about the problem I was exploring? OR What can other teachers learn from this?

What I have learnt from this project is to try to work out what your class' learning needs or prior knowledge is at the beginning of the year, as it is important to not make assumptions about what they do and do not know.

I learnt the power of using assessment as a learning tool for students and teachers and not as an end, but as a beginning. I think that has been a really good learning curve for me.

I also found out that if students are given goals and feedback and challenged to "close the gaps", they generally will act on that information. In particular, I think it helped to challenge the students to move their *own* dials, and not pitting them against each other

Francesca Pouwers' literacy strategies, along with the Ministry's book, were very useful in helping students "unpack" what they read. These strategies gave the students confidence to tackle texts on their own and by practicing these tasks, they became better readers who actually began to enjoy reading. I realised that students are often overwhelmed by large quantities of text and that if you help them to scaffold their reading, they find the task more manageable. The key was to get them reading material that they enjoyed or could relate to so that we could then trial these strategies.

I have been very empowered by this project and I think I would do it again and again. I would use my students as participants to improve my teaching in the hopes of improving their learning.

I believe that an important part of my success is that I had the support from the English department and school. I am lucky that the school shares my philosophy about teaching and without this support it would have been more difficult for me to abandon the curriculum so I could really focus on developing my students close reading skills. They have also been supportive of this action research.

Section B

How much time did all of this take and from where did I get the time?

Being an action researcher does take time but it is time well spent. You are forced to look at the needs of your students and then work out ways to close the gaps. When students are given direction like this, they generally respond well and enjoy the feeling that success brings. When a student gets this sort of satisfaction from learning they often "take off" and very quickly become independent learners; this not only makes your job easier but more enjoyable and fulfilling as well. It is a very efficient way to teach.

Improving Students' Accuracy in Grammar Punctuation and Spelling

Catherine Hellyer

1. What did I want to know or explore or find out more about? What was it about feedback or assessment that I was interested in?

My topic was grammar, punctuation, spelling, and syntax (GPSS).

My aim was to improve the students performance in these areas

2. Why was I interested in this? What motivated my research?

At the end of last years TLRI study on close reading I started to also look at my classes writing skills. I noticed that their writing was poor and this stimulated my interest in looking at writing for the second year of the TLRI project.

Also, our Assistant HOD chose to focus on grammar, punctuation and spelling for this year group. So all the teachers did asTTle tests that picked up on these features. I found out that my class was below the national average in these areas, and therefore this was further evidence that this was an area that I needed to work on.

I am a little embarrassed about the topic as it seems so simple, but I was interested in it because I thought that students might be reluctant to write because they did not have the tools to write well. Also, I also used to read their writing and cringe because the grammar, punctuation and spelling were so bad. This is a problem because they need to be able to write for the future.

I also suspected that students were reluctant to write because they didn't have the punctuation and grammar skills.

3. Who did I do my research with—what students, how many, what teaching?

- Year 10 class of mixed ability 27 students 15 boys 12 girls

- Decile 9, co educational urban school

- English class

- Not great readers but PAT scores for reading were ok

- The class consisted of five European/Pakeha, three Māori, two African, three Chinese, one British/Irish, one Italian and two Indian.

4. What tools or resources did I use to investigate this problem?

asTTle test

Two asTTle tests were given: one at the beginning of the study and one after the intervention. After the first asTTle test I shared with the students their individual asTTle profiles. I pointed out that all of them were below the national average and this was therefore a problem that we all needed to work on. I set them the challenge that they had to move their own asTTle dials i.e. that I wanted to see every single one of them improve, it didn't matter how much, or where they started from, I just wanted them to improve.

Questionnaire 1

I designed a questionnaire for the class as I wanted to find out:

- Do good readers make good writers?

- Do the students enjoy writing?

- How confident are they in using punctuation, spelling and grammar?

I showed the questionnaire to my mentors and they made a few suggestions about how to get more variation in the responses (rather than ticks and crosses)

asTTle writing exercises

I then used a series of asTTle writing exercises to get the students to write. We did nine of them, one a day. I took these written pieces in for marking and ringed their mistakes and gave them back to the students to work out what they did wrong. The students had to correct the mistakes, and return them to me. These exercises formed a portfolio of work and they also made a visual record of their improvements.

Posters

Finally, I organised the students into groups and got them to design posters on some aspects of grammar or punctuation. For example, one group did 'the comma' another 'the apostrophe'. They students then had to present their poster to the class and design exercises for the class to do.

Questionnaire 2

At the end of the GPSS unit I designed a second questionnaire to get the students to re-evaluate their grammar, punctuation and spelling skills. I asked them what they thought their GPS skills were at the beginning of the unit and what they are like now. This told me whether or not the students had became more realistic about their skills and if they thought that they had improved. I also asked them to evaluate the different tasks we did to find out what they thought was the most useful for their learning.

Review of Portfolios

The students were given back their individual writing portfolios which contained approximately nine pieces of writing. This writing had been checked by me and errors highlighted for the students to correct. They were asked to select a sample from the beginning of this project, one from the middle and one from the end. They were given evaluation slips with the range of GPSS features we had been looking at and with a column for beginning, middle and end. The students then had to tally up how many errors they were making at the beginning compared with the end of the project. Most students indicated that they were making fewer errors than before, but quite a number of students were actually writing much more in the latter tasks and as a result, were still making some errors.

5.   What did I find out?

First asTTle test

I found out that the students were surprised that their scores were so low (compare class performance in red with corresponding national performance in blue) and they seemed motivated to move their individual dials. I found sharing the progress reports with them motivated them.
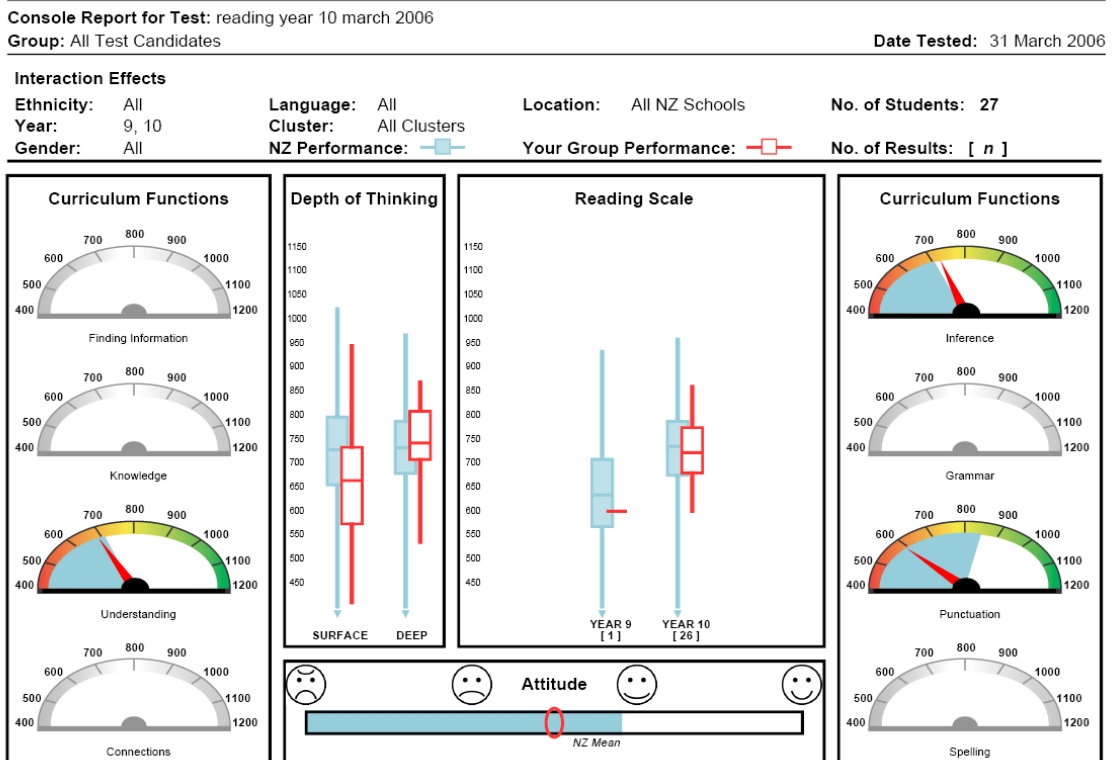
Questionnaire 1

The results of my first questionnaire showed the following:

Interest in reading

- 82% of students in this class do not read widely or regularly

- 50% of the class either hated reading aloud or didn't like reading aloud. Only 11 % enjoyed and felt comfortable reading aloud.

Comment

I was not surprised by the fact that the questionnaire showed they did not like reading. I already suspected that their poor GPS was probably associated with the fact that they did not read, or weren't confident readers. Also, the study I conducted last year showed that the students were poor at close reading, so I kind of assumed that this class might have difficulties with reading too.

Interest in writing

- Just under half of the class liked writing in the school situation (48%) and 70% indicated that they did not mind writing stories in class.

- However, writing did not seem to extend to the home environment with only 36% writing for pleasure. Most students indicated that they did not enjoy writing for their family (61%), for an audience (92%) or for a publication (80%) of any kind. Writing at home was more likely to be personal and in journal or a diary (44%) or via email (82%) but relatively few kept this up daily.

- The majority of the students who had part time jobs did not have jobs that required them to write (89%).

Comment

I think these results suggest that students particularly disliked writing for a public audience or for people that would judge it. Private writing, or writing in class for just the teacher was seen as ok, and as part of being at school. I think I largely expected these results.

Perceived competence in using punctuation

- When asked about their ability to use punctuation properly, the overwhelming majority of the class felt that they never had problem using capital letters (67%), full stops (58%), speech marks (52%), exclamation marks (59%) or question marks (56%). But 80-85% of the students did admit they had some degree of problem with the use of the apostrophe, comma, colon, semi colon and paragraphing.

- More than 80% of students thought that teacher feedback would be useful in helping them to improve in the areas of grammar, punctuation, paragraphing, spelling and vocabulary

- 88% of students felt that uncertainty about how to use GPS sometimes stopped them from wanting to write

- 74% of students wanted to improve their GPS

Comment

I was surprised by the extent to which my students seemed confident in their ability to use grammar, punctuation and spelling, when it was clear to me that they had difficulties. I think many of them probably didn't know what some of the punctuation terms meant e.g., colon and semi colon. Their overconfidence may also have been because they hadn't formally been taught GPS and in the course of their schooling. In addition they probably haven't received a lot of specific feedback on their GPSS and hence I don't think they realised they had a GPSS problem.

Interestingly, the questionnaires indicated that the students' seemed to continue to have GPSS confidence despite the fact that I had shared with them their asTTle results earlier which showed this was an areas that needed improvement. It seems that they don't know that they don't know how to use writing conventions in an accurate way. I think that they did take on board the results of the asTTle test and felt quite reassured that the class as a whole did not perform well. However, they still believed that when they wrote something it was accurate until told otherwise. When an error was drawn to their attention, they were often very quick to point out why it was wrong and what they could do to fix it. Perhaps this indicates laziness, maybe their GPSS confidence was because they felt they did know how to use GPSS but they were not motivated to use it accurately, because in the past it didn't seem to matter.

Intervention

asTTle writing exercises

The students kept their work in a portfolio so they could track their progress on the asTTle exercises. On completion of the exercises I asked the student to sort through their portfolio of writing and select a sample of writing from the beginning of the study, a sample from the middle and a piece of writing from the end of this study and to make a tally of amount of errors made at each stage and draw conclusions from these results. The majority of the class believed they had improved.

Posters

The students seem to enjoy making the posters but most felt they learnt more from the exercises (see survey results below).

Questionnaire 2

Increase in GPS confidence

Overall, by the end of the intervention all students rated themselves as having improved on all aspects of GPS. However, the only statistically significant differences were found on the increase in confidence with the use of semicolons and spotting errors in work.

The students' beliefs about their ability to use GPS also became more realistic after they started the class work. That is, before the GPS intervention they didn't think they had many GPS problems, but once class work started, they became more realistic about their strengths. Note however this difference was not statistically significant.

Preferred intervention activities

The majority of the students (58%) indicated that making the posters was their preferred exercise and 83% said that making and presenting posters was helpful for improving their GPS. Interestingly, even though the asTTle exercises and going over the teachers' feedback to correct their mistakes were not the most preferred intervention tasks, all the students recognised these activities as helpful to some degree, whereas not all students thought the posters were helpful.

asTTle re-test

An asTTle test was given on the 27th August. The sliders (some level 4, most level 5, few level 6) were Understanding, Inference and Grammar; punctuation was not selected by the programme as it had been in March 2006 which unfortunately makes the two tests difficult to compare. The results were mixed and difficult to analyse. Many students had made progress but some of the more able (although less industrious) students had stayed the same or had gone backwards.

Review of portfolios

Although the asTTle test scores did not significantly improve, a review of the students' portfolios showed that they had made some progress and had now become aware of the types of errors they were making and how to correct them. A number of students said they now felt more confident about writing accurately and knew if something was not correct in their writing.

Limitations of the study

This study was based on a small sample and the hence the findings are difficult to generalise. Also, the post intervention asTTle test results could not be compared with the baselines asTTle test as the asTTle programme did not allow for the selection of the same features and randomly picked grammar when we had been mainly working on punctuation. The section of the test which assessed these areas was too small and limited in scope. I would not choose to use asTTle for measuring surface features again and would find another assessment tool.

Future studies would need to use pre- and post-tests that were directly comparable in order to detect improved student learning outcomes.

6. What does this tell me and other teachers about the problem I was exploring? OR What can other teachers learn from this?

I was disappointed in the asTTle retest because it showed that no significant movement had been made. Both the students and I felt this was not an accurate reflection of this journey. I believe the students did improve because they are now aware of what accuracy in GPS means and how to self correct their work. Students now ask me "Does accuracy matter today miss?" which is great because it shows they are aware of it. They weren't before because it wasn't valued. The feedback they received from other teachers doesn't focus on these kinds on GPSS errors: It doesn't explain why the errors were made, how to stop them or how to correct them. Students also don't get the chance to correct their errors and try again. In this project I don't think the students realise that the intervention was a form of assessment. They didn't care about the grades, and they didn't need

them. There was also a certain freedom in being allowed to make errors from which they can learn.

As a result of this study, I have also learnt that students think they are better at punctuation, grammar and spelling than they are. Many have no understanding of the simple rules such as when to use capital letters and full stops. I have learnt that we need to bring this to the students' attention and show that it is important and valued. Then maybe students will make more of an effort to learn the rules and pay attention to the feedback.

However, teaching GPSS accuracy is hard. I now believe GPSS has to be embedded in a wider literacy approach. I think that reading should come first to allow students to see patterns, accurate sentence structure and how you use punctuation to control writing. Working on improving only GPSS as a focused unit may be too much of a top down approach. We need to feed students from underneath and give them a framework for them to hang their grammar on. For next year I have designed a literacy strategy where I plan to get students hooked into words and language and use this as the basis to also look at GPSS.

I have also learnt that kids don't always apply things across or within learning areas. I always say them "Did you remember accuracy?" to which they often say "Oh I forgot". They know it, but they don't think to apply it.

Finally, as a result of this TLRI project, I am now big on using assessment data as a starting point for my teaching. I use it to get kids to buy into learning, especially if I show them how to improve, explain to them what we are going to do, and help them to track their progress. I think it is a simple formula.

Section B

How much time did all of this take and from where did I get the time?

Overall, this project took very little extra time. I incorporated the strategies into my existing programme so it dovetailed nicely. I have always given feedback on accuracy of GPS to my students; it was just that this time it was more focused and we tracked our progress more stringently.

It does take time to assess the needs of your students and to use the data to help them improve. It also does take time to prepare resources and designing questionnaires and other data collecting tools. What also happens when you respond to the needs of your students and show them a pathway that enables them to close the gaps, is a wonderfully, focused and enthusiastic learning environment in the classroom. I believe that all students want to learn and to experience a sense of achievement and that if you give them the structure and feedback they need, they will come on the journey. So time wise, it does take more time but the learning is more effective and efficient. It is simply good teaching practice.

Appendix

Punctuation, Grammar and Spelling Feedback Survey

I would like to find out if you think you have improved your grammar, punctuation and spelling and your impressions of the types of activities we have been doing in class on this topic. This information will help me to find out what activities work best so I can use them in the future to help your learning.

1. **Before** we started working on punctuation, grammar and spelling, did you think you had trouble with any of the following (please tick).

Type	Never	Sometimes	Always	Not Sure
Full stops				
Commas				
Capital letters				
Apostrophes				
Colons				
Semi colons				
Speech marks				
Question marks				
Exclamation marks				
Spelling				
Spotting errors in my work				

2. **When we started** working on grammar, punctuation in class, did you find you had trouble with any of the following?

Type	Never	Sometimes	Always	Not Sure
Full stops				
Commas				
Capital letters				
Apostrophes				
Colons				
Semi colons				
Speech marks				
Question marks				
Exclamation marks				
Spelling				
Spotting errors in my work				

3. **Now that we have completed** the unit of grammar, punctuation and spelling how much trouble do you feel you have with any of the following?

Type	Never	Sometimes	Always	Not Sure
Full stops				
Commas				
Capital letters				
Apostrophes				
Colons				
Semi colons				
Speech marks				
Question marks				
Exclamation marks				
Spelling				
Spotting errors in my work				

Classroom Activities

Please indicate your opinion with by circling the most appropriate answer

1. How much did the daily writing exercises help you to improve your grammar, punctuation and spelling?

Not at all helpful   not much help   some help   mostly helpful   very helpful

Comment: (optional)

2. How much did going over my feedback and working out what your mistakes were, help you to improve your grammar, punctuation and spelling?

Not at all helpful   not much help   some help   mostly helpful   very helpful

Comment: (optional)

3. How much did the making the posters help you to improve your grammar, punctuation and spelling?

Not at all helpful   not much help   some help   mostly helpful   very helpful

Comment: (optional)

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4. How much did presenting your poster to the class and designing exercises for the class help you improve your grammar, punctuation and spelling?

Not at all helpful   not much help   some help   mostly helpful   very helpful

Comment: (optional)

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5. Please rank the following tasks from most preferred (1) to least preferred (4)

Task	Rank (1 = Most preferred, 4 = least preferred_
Writing exercises	
Self-correcting of errors on your work	
Posters	
Presentations	

Briefly, what was about the tasks that made you rank them 1(most preferred) and 4 least preferred?

I ranked the task 1 because….

I ranked the task 4 because…

Thank you for your cooperation!

Forms of Feedback that are acted on

Harold Merriman

1. What did I want to know or explore or find out more about? What was it about feedback or assessment that I was interested in?

For this project, I was especially interested in finding a form of feedback that causes student action that leads to improved learning. Was it better to continue with my well-entrenched practice of marking student workbooks with ticks and brief comments, or could I find a simple rubric or table that enabled me to provide feedback targeted at areas that could be improved, while at the same time having a positive impact on students?

2. Why was I interested in this? What motivated my research?

I was often frustrated with the amount of time I spent in marking books and providing comments designed to assist students with their learning, and then see all that work ignored by most and cast into the dustbin of history. Clearly what I was doing was not having the desired effect, but conversely, providing detailed feedback is, of course, what one is expected to do as a teacher. I needed something that would cause students to act and hence improve learning outcomes.

In searching for an answer, I came across two references in particular that informed my research. In a study involving tertiary students, Andrade and Wu (2005) noted that students used rubrics to provide a focus for their assessed work, to monitor and reflect on the quality of this work, and ultimately to earn better grades. In doing so, the students felt less anxious about the assessment. The article did point out that students in this study commented on the use of rubrics as a means of giving the teacher what they wanted, which struck me as a rather dubious aim in an institute of higher learning. On reflection, however, that might not be an inappropriate aim if the rubric accurately reflected the qualities required in a high school literature assignment, where what was wanted included accurate identification and explanation of quotes, for example, or comprehensive use of information to back up generalisations.

On reading Weeden et al. (2002), I realised that when it came to marking student exercise books, my entrenched style was what they referred to as "tick and flick". This indicates satisfactory or unsatisfactory completion of a task with a tick, cross, other symbol (such as a question mark where handwriting or meaning is impenetrable), and a brief comment, such as "incomplete", "most questions answered correctly", "check spelling in this paragraph" and so on. Such feedback has the advantage of being manageable in terms of time, and makes it obvious to the student that their work has been marked, but it does not provide enough feedback on how to improve the quality of the work. Weeden et al. also made me think about what the assessment goals actually were for a lot of the tasks and exercises students were required to do in their books.

3. Who I did my research with – what students, how many, what teaching?

There are 29 students in my Year 10 class, a Level One English class (top band, but of fairly average ability, as the asTTle results attest.) It is ethnically mixed—there are eight students of New Zealand European/Pakeha descent; seven Māori; six of ethnic Indian descent; six Pasifika; one Chinese, one Khmer (Cambodian). It enjoys almost perfect gender balance, with 15 boys and 14 girls. The school is a decile 4 multicultural High School in South Auckland with an atypically ethnically diverse population, including students from all parts of Asia as well as Africa and the Middle East, alongside the more traditional mix of Pakeha, Māori and Pasifika students. The catchment area of the school comprises a stable, comparatively prosperous, skilled working class and petit bourgeois population in a relatively long-established and well-serviced suburban environment.

4. What tools or resources did I use to investigate this problem?

The class had been studying a novel entitled "Rocco" by Sherryl Jordan, as part of the Close Reading and Response to Text requirements of the English curriculum (English in the New Zealand Curriculum, MOE, 1994). As part of this study, they had to complete a multi-part assignment, both in and out of class. This consisted of:

- A character profile task that required students to write brief summary notes explaining aspects of the most important characters in the novel – their strengths and weaknesses, likes and dislikes, significant actions and relationships with others, the changes they undergo etc.

- A Close Reading task started in class and completed for homework that consisted of a Three Level Guide – an exercise often used in English classrooms that requires students to identify points of information in the text, make inferences on the text, and extrapolate general ideas beyond the text.

- A quotations task that required students to identify and explain five or more given quotations from the novel.

- A simple chart summary of events in the novel and the feelings/tension levels associated with these.

When it came time to collect in and mark this assignment, I decided to use a computer-generated table, somewhat like a rubric (but with no achievement levels indicated on it), to sum up in one clear and easy-to-follow way what they had done and had still to do (Table 1).

Rocco work: Progress check

Table 1: Feedback form

Work	Criteria	Check
Character notes	Enough detail	
	Complete	
Three level guide	Accurate	
	Complete	
Quotations	5 attempted	
	Accurate	
Chart summary	Ch 1 – 9	
	Accurate	
Presentation	Tidy	
	Organised	

I generally used ticks in the boxes to show achievement of the specific requirements. However, I sometimes wrote one word descriptions in the "Check" column where I thought these were necessary, such as "almost", or "some" to indicate a partial level of completion or attainment. Where a number was indicated and the number the student had done was different from the number required, I wrote that in (e.g. for "5 attempted" I might put in "3". For things requiring a blatant teacher value judgement, like "tidy" and "organised", I used words like "Yes, very" or "Sort of", depending on how well I thought they'd done in this regard.

This small form did not replace completely my previous (fairly traditional) practice of "tick & flick" and quick comments in the margin, but what it did that was new for me was provide the students with a short, easy to read summary of progress (or lack of it) so far, and hence it made the need to go back into the work to finish, correct and improve things more explicit. It's relatively easy for today's adolescent to ignore a handwritten comment along the lines of "Some work missing. Please go back over your work and catch up where I've indicated." It's somewhat more difficult to ignore a specific and detailed list of one's sins of omission.

5. What did I find out?

After I handed their books back, it was immediately obvious to me that there was greater student engagement with the feedback in this new (to them) form. Students looked in their books, checked back to see where I had indicated that there were problems, and asked questions about the assessment. To confirm my observations, I conducted a survey of class opinion. The questions I asked them were:

1. (How much) did the feedback form help you to understand what you had achieved in your bookwork?

2. (How much) did the feed back form help you to understand what it was you had to do to improve your bookwork?

3. When you got your book back, how much did you check to see if the form was an accurate assessment of your work?

4. When you got your book back, did the feedback form cause you to think about completing unfinished tasks and catching up?

5. Since then, have you actually spent any time completing unfinished tasks and catching up?

Please comment on which you prefer – the Feedback Form, or the more traditional ticks, comments & grades written in the margins of your books. Briefly, what is the reason for your preference?

These are the final versions of the questions. My originals were drafted in a way that really only allowed for yes/no responses; the final versions were more suited to a Likert-style response. Table 2 summarises the class's responses:

Table 2: Survey results table

Survey Question					
Question 1 - help in understanding achievement	not at all	not much	some	mostly	very
Response	1	1	3	9	7
Question 2 - understanding what needs to improve	not at all	not much	some	mostly	very
Response	1	0	5	10	5
Question 3 - how much did they check work	not at all	one or two things	some things	most things	everything
Response	4	2	3	7	5
Question 4 - thinking about catching up	no	ought to	might	will	have done or are doing it
Response	4	3	0	5	9
Question 5 - actually catching up	no	not much	some	almost up to date	completely up to date.
Response	4	3	5	7	2
Question 6 - preferred style of feedback	Traditional	Feedback form	No opinion		
Response	5	15	1		

I found that

- 15 out of 21 preferred the short rubric
- 5/21 preferred the old way

- 1/21 had no opinion.

The comments students made in favour of the form confirmed my first impressions and made it clear that the additional information was what the students valued in this new approach:

> *It's much easier to understand what needs to be done.*
>
> *It helps me more.*
>
> *It enables us to see exactly what our work standard is.*
>
> *We should have grades too and a little more comment.*
>
> *I found it more informative.*
>
> *It's easier to understand and read.*

At the time I used the form, I was pleasantly surprised by the number of students asking questions about missing work, about what needed doing, and checking to make sure they had the resources to do the missing or incomplete tasks. This seemed to indicate grater engagement with the assessment (and learning) task, but a later book check showed that few, if any, had taken the time to follow through on their initial resolve. This is borne out by the responses to Questions 4 and 5, where there was less certainty in their responses compared with Questions 1 and 2.

On reflection the expectation on my part that a simple change of feedback style would itself change *their* entrenched practice was naïve in the extreme. As teachers we may *expect* students to revisit their work and endeavour to improve it, but our experience tells us that they generally will not do this on their own initiative, and need to be supported to do this. It would have been a good idea to give them a blank copy of the form before the work was due, as a first step towards getting them to check and improve their own work. It would also have made a lot of sense to allocate some catch up time when their books were handed back, as in hindsight this would have capitalised on the first flush of interest and concern expressed by the students when they read their feedback. Finally, it would have been of benefit to those for whom keeping their work up to date is always a struggle to establish and use peer groups to help each other catch up or improve missing or substandard work. On my part, I would have had to accept that the unit was going to take longer to get through, but the payoff would have been of more use in arriving at the desired destination.

6. What does this tell me and other teachers about the problems I was exploring?

From this I learned that it is important to make explicit and clear what we expect students to do in their books, and to give them a succinct assessment of what they have actually done. If one does, is seen by students as a good thing to do. A well kept work book can be a source of pride for a student, as well as an essential learning resource. A poorly kept one can reinforce a sense of failure and low self esteem. The form sets out dispassionately what has and hasn't been done. However, it is on reflection only one small step in the right direction.

Students find rubrics like this clear, and easy to follow without using teacher-speak.

For the teacher, it is easy to produce and use. It avoids a lot of repetition in the feedback we provide, which saves us time.

I think this type of feedback is something that I will use almost exclusively for progress checks of written work in the future, regardless of year level. However, as I have mentioned earlier, it needs to a part of a new approach on my part to providing and encouraging student use of feedback, that includes providing the form to the students before the assessment is due, providing class time to improve and complete work immediately after the feedback is given, and using peer support groups to provide assistance and encouragement to those who are behind and need help. I also tend to agree with those students who wanted a grade-type indication of quality as well as a completion check. This aspect is only marginally addressed by my form (see Table 1) and reflects the wider issue of assessment focus.

I was impressed by the overall maturity of student responses to the survey. I felt for one brief shining moment that they and I were on the same side, so to speak, working together to improve student learning outcomes. However, they moaned and groaned magnificently about having to complete the survey, but they did complete it, and their responses showed that they took it seriously. They would hate to admit it, but I think deep down they like being consulted. They like the idea that their opinions matter. Who doesn't?

7. How much time did all of this take and from where did I get the time?

It didn't take as much time as it should have, because I didn't do a lot of background reading before embarking on it, a decision I regret now because in hindsight I could have trialled not only the form, but the approach I have outlined above, had I read more widely beforehand and reflected more critically on my own practice.

Drafting the form itself was the work of a half hour on a wet Sunday, with a messy stack of exercise books looming accusingly at me on the desk. Drafting the survey, in consultation with my mentor, probably took the best part of an hour, while collating and recording the results took between one and two hours. Finally, drafting and redrafting the report has taken about four to six hours in total. This comes to a grand total of around ten hours, about half of which I used school (non- contact) time for.

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"What's important and what helps me make progress":
Students' views on Types of Assessment and Feedback

Developing an action research approach

Amanda McKay

Aims of the project

This TLRI (Teaching and Learning Research Initiative) project aimed to investigate students' and teachers' conceptions of assessment and feedback, and to identify activities and tasks that could be used in the classroom to enhance assessment and feedback practices and ultimately lead to the attainment of specified learning outcomes.

My desire to participate in the project was three-fold. I was particularly keen to reflect upon my own teaching and assessment practice; to explore the action research approach; and how students could be involved in assessment. My specific objectives were to investigate:

- the students' view on assessment;

- how assessment could be used to focus on student learning; and

- how I could use formative assessment in both a planned and interactive manner (Bell & Cowie, 1999).

Context

The research was conducted over a two-year period, which due to a change in my employment, took place in two low decile West Auckland high schools. My brief as a teacher-researcher was to select a class of students to work with during each year of the project. In the first year of the project the class selected, based on their asTTle results, could be best described as a low achieving Year 10 class. In stark contrast the class selected in year two was a high ability Year 9 class. Overall, approximately fifty Year 9 and 10 students were involved during the two-year period of the project. While it was not my original intention to select two such diverse groups of students the move from one secondary school to another after the first year of the project and the schedule of classes that I would teach in 2006 provided me with the opportunity to investigate the perceptions of two quite different cohorts of students.

Given my belief that students must be active participants in the learning process I decided that students needed to have the opportunity to express their views on what an effective learner would look like. This became the starting point for my research and resulted in producing an 'effective student profile', namely that an effective learner would:

- have a "feel" for the expected learning outcomes

- be able to identify when they have achieved the learning outcome

- know and understand the skills of collaboration in assessment

- be able to assess their own progress in an ongoing manner

- become more independent learners.

To allow the effective student profile to come to life, the development of the classroom environment became paramount. The profile became a feature of each lesson and students were expected to explain their opinions on a regular basis. In the development and use of the profile it became important that students understood that assessment was an integral part of the learning process, not an activity that sat "outside" of it.

The purpose of assessment

As in any research endeavour the necessity to define the constructs informing a project were important for me. Assessment can be defined as the gathering, analysis and reporting of information. In my reading, the work of Lorna Earl (2003) resonated with me and I particularly liked the distinctions she made between assessment "for", "as" and "of" learning.

For learning	As learning	Of learning
on going – to inform the teaching program	students actively participating in assessment processes	for reporting to parents and accountability

To me, the main purpose of assessment should be to improve learning (Earl, 2003). Indeed if assessment is to be considered formative the information gathered has to be used to modify teaching and learning (Sadler, 1989). Thus in this project I wanted to focus on "assessment for learning" and "assessment as learning", thereby focusing on the formative aspects of assessment.

The students' perceptions of assessment

During the initial stages of the TLRI project, university staff conducted focus group interviews with a selected number of students, Interviews addressed three key aspects of assessment and feedback; definition, purpose and personal response. The data gathered was particularly interesting to me in that they provided insight into students' perceptions. After reviewing the results, I categorised students' perceptions of what they thought constituted assessment under the following ten headings:

- closed book tests
- homework assignments
- examinations
- ticks in your book
- percentages and grades
- when the teacher talks to you and shows you how to improve
- self assessment
- open book tests
- when you are able to explain what you've learnt
- when the teacher writes in your book and shows you how to improve

While the insights gained from the focus groups proved interesting, I felt they were in a sense limited in that they represented the views of students unknown to me. Furthermore I felt that there was still more to learn about students' thinking about assessment and feedback. There was a need to delve more deeply into students' conceptions, particularly the conceptions held by my students. In particular if these were the students' perceptions of assessment then I wanted to know which methods of assessment the students found most important and which were less important to them. Also, I wanted to establish whether there was a correlation between students' conceptions of the efficacy of particular methods of assessment and improved learning outcomes.

The assessment diamond

A preliminary task for me was to identify a procedure that would enable me to collect data about students' views of the various methods of assessment used to collect information about their learning. Following a TRLI meeting, where different ways of collecting data were discussed I decided to use a 'Ranking Diamond' as a tool for collecting data.
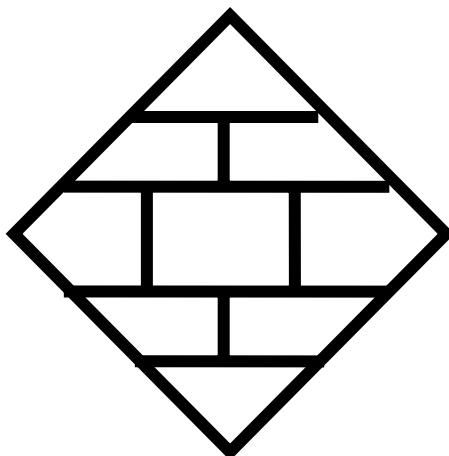
Once the decision had been made to use the diamond, I then decided to implement the diamond with my Year 10 mathematics class. What was important to ensure was that I had the students' own bias free, uninfluenced opinion on the types of assessments, in the hope that this process would lead to further discussions. To ensure that I did not influence the students in any way, there was no prior discussion about or definition of 'assessment'. It was stressed to students that during the activity they were free to make placement changes if they so desired.

Students were given an A3 page with a blank assessment diamond on it and another sheet with the list of 10 assessment methods (see Appendix A). Students were asked to place the types of assessment from the "most important" to the "least important" onto the diamond. With only nine placements and ten categories, I also asked the students to place one as "not important at all". This part of the diamond activity took approximately 30 minutes of the lesson. Given that it was important to ascertain each student's perceptions about the value of each method, students were asked not to communicate with each other during this exercise.

With 10 minutes remaining of the session, I asked the students to write their reasons for their placement of the three categories; namely most, least and not important at all. Even though I had

not planned this, subsequently it extended my action research to include invaluable qualitative data, as well as quantitative data. As a result of my spontaneous decision to gather qualitative data about students' reasons for their placement a fuller understanding of students' thinking emerged.

My original intention was to administer the diamond on only one occasion. However given that I was trying to change the classroom climate and encourage students to become more active and engaged in the processes of learning and assessment, during the year I decided it would be useful to administer the diamond again at the end of the year to ascertain whether or not there were any changes in student thinking.

Methods of analyses

Data were analysed both quantitatively and qualitatively. In the first instance, student responses to the perceived value of each assessment method were analysed to find the mathematical mean. However, following my presentation of this information at a TLRI group meeting it was discovered that the treatment of information in this statistical manner was inappropriate. Following the suggestion of one of the university researchers the data were re-analysed and the mode for each assessment type calculated. Analysing the data in this way provided a more accurate picture. The qualitative data in the form of students' responses with regard to their rationale for the placement of assessment types as either "most", "least" or "not at all important" were collated and categorised.

What follows are the results of students' responses by class, both at the first administration of the diamond and again at the end of year. Year 10 results are reported first because they were the class where the diamond was first administered. Year 9 results follow. The results section concludes with a comparison between the results from the two classes given that there are some differences worthy of note.
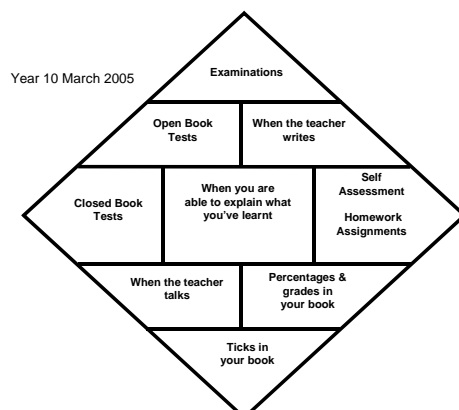
Results

Year 10

As already noted the Year 10 class were classified as a low achieving Mathematics class. AsTTle results taken from a beginning of year assessment indicated that only 28% of the class scored above Level 4[1].

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[1]   The bottom end of Level 4 would be considered to be an appropriate level for Year 9 students.

Figure 1 shows the modal response by class.

As can be seen, examinations were seen as the most important type of assessment with ticks in books perceived as either the least important or not important at all. Percentages and grades were also perceived to be of no importance.

Figure 2 shows students' end of year responses.
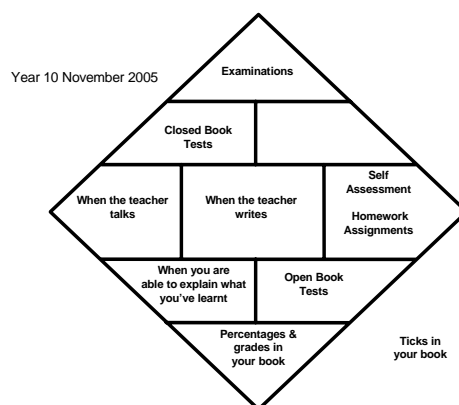
Examinations were still seen as the most important type of assessment. Students' reasons for their selection of examinations as the most important revealed that they viewed examinations as a summative measure, a way in which achievement could be measured:

> *Because they show what you know and have learned throughout the year without help from books or other people.*

> *Because I think it [an examination] tests what you have learnt and remembered best.*

Interestingly, by the end of the year, teacher talk or explanation had moved for being perceived as relatively unimportant to important. Unfortunately there was no qualitative data collected to ascertain the reason for this change given that I only asked for students' reasons for placement of methods at particular points of the diamond. From my perspective only, a possible reason for this change could be linked to the classroom environment I had tried to establish. Fostering discussion during mathematics had been a focus of my teaching. Did this have an impact on students'

perceptions of its value? While this remains unknown, possible reasons for a change such as this could be followed up in future iterations of the diamond activity if similar changes were to occur.

Again percentage grades and ticks in books were still seen as unimportant. Feedback in the form of ticks gave no indication of how to improve:

> *It doesn't show how to improve.*

> *Ticks in your book only tell you what you did wrong.*

While students perceived ticks in books to be of little value they did reveal they "liked" to see them in their books.

Worthy of note is that the end of year asTTle results indicated that 71 percent of students were operating at Level 4 or above.

Year 9

The Year 9 class was classified as a high achieving group of Mathematics students. AsTTle results taken from a beginning of year assessment indicated that all were operating within Level 4 with 19% operating within Level 5.[2.]

Figure 3 shows the modal response by class.
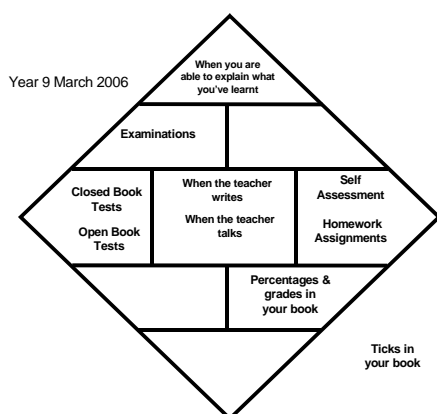
Year 9 perceived that the most important assessment method was when they themselves could explain what they had learned. Ticks in an exercise book were considered either least important or unimportant.

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[2] The bottom end of Level 4 would be considered to be an appropriate level for Year 9 students.

Figure 4 shows the modal response by class at the end of year administration of the diamond.
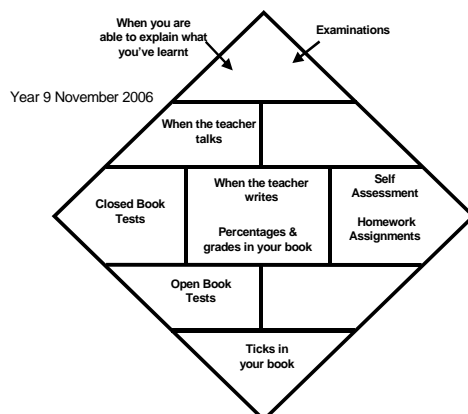
While students being able to explain themselves what they had learned remained the most important assessment method, examinations were now seen as equally important. Given that students had recently completed their end of year school examinations the increased emphasis on the importance of examinations is not surprising. Again ticks in books remained least important. Grades and percentages had however increased in perceived value, moving from not important to important. Although students' reasons for this movement are not known it might be hypothesised that there is some relationship between the perceived value of grades and percentages and the increased importance of examinations. Again, should a similar finding be revealed in subsequent administrations of the assessment diamond it would be useful to ascertain students' reasons for the change in importance of this particular method of assessment.

Students' reasons for their selection of methods as most, least or not important provided further insight into their thinking about assessment. An analysis of student responses revealed that being able to explain to others what you had learned was linked to student learning. Understanding was clearly important to the Year 9 students. To them, learning was about understanding:

> *You've really learnt something if you can explain it.*
>
> *Means you understand the work and will remember it.*

In contrast, while examinations were considered the most important by the end of the year, their importance was not linked to student learning or increased understanding. Emphasis was placed on their value in ascertaining achievement. Students viewed examinations as a means through which their achievement could be measured and reported. Examinations were conceived of as a summative measure. They could provide normative information about student achievement. Furthermore examinations were accepted as a normal aspect of one's lived experience and were considered preparation for life:

> *It shows me how I have achieved overall.*

Because you know where you are compared to where you should be, and what you know.

It helps you improve because most things in life have examinations. It also makes you get used to it.

Student responses indicated that ticks in exercise books were least important because receiving feedback that an item was correct or incorrect was not helpful. Corrective feedback in the form of ticks or crosses did not assist in future learning as it did not indicate how to improve:

Shows what's right or wrong but that's not really helpful.

Because the ticks may show what you are doing correct but if you get something wrong it doesn't help you get it correct next time.

AsTTle results indicated that by the end of the year, 70 percent of the class was operating within Level 5.

The relationship between levels of achievement and preferred method of assessment

A preliminary, crude comparison has been made between Year 9 and 10 students' AsTTle band scores and their ratings of specific methods of assessment (see Appendix B). To date, this data has not been considered fully. It is planned that this will be examined in a more in-depth manner early in 2007.

The differences in results between high achieving Year 9 students and low achieving Year 10 students

At the beginning of my involvement in this project, it was not intended to undertake a comparison of high and low achieving students' views about the perceived value of different assessment methods. However, a change in professional circumstances afforded me with this opportunity. What has come to light for me as a result of collecting data from two quite diverse groups of students is the difference in what each group saw as the 'most important' assessment method and more significantly their reasons for this categorisation. The high achieving students made their selection of the most important assessment methods based on how these may assist their learning. Being able to explain what had been learned was chosen for its formative value. This method aided their learning. In contrast, the Year 10 low achieving students rated being able to explain what they learned as least important at the beginning of the year and important by the end of the year. The Year 10 students viewed examinations as the most important assessment method because of their summative value. They were seen as a way in which learning could be measured and reported.

It should be noted that while this comparison between the two groups of students has been made in the first instance students were never asked what method of assessment was most / least/ not important to their learning. Students were asked to rank the methods of assessment according to their importance not their importance in relation to a specific point of reference such as learning.

The impact on teaching and learning

At the start of the project I had three aims. I aimed to discover:

- the students' view on assessment;

- how assessment could be used to focus on student learning; and

- how I could use formative assessment in both a planned and interactive manner (Bell & Cowie, 1999).

In regard to the first aim, the quantitative data gained from the assessment diamond enabled me to gain insight into students' beliefs about the perceived value of different methods of assessment. The qualitative data related to students' reasons for their categorisation provided me with a deeper insight into their thinking. Together the two sets of data have provided a rich picture that revealed major differences between two cohorts of students. In the future I plan to refine the original assessment diamond and administer this to other groups of students.

In regard to aims two and three, throughout the duration of the project I have been able to use assessment information to assist student learning in both a planned and an interactive manner (Bell & Cowie, 1999). Lesson planning has reflected the needs of the students and has been changed in an ongoing manner as and where necessary. Consistent with my belief that students should be active in the processes of learning and assessment the goals of learning, in the form of learning objectives have been shared with students at the beginning of lessons. Through the implementation of a 'traffic light' activity used at the start of, during and at the end of a unit of work (Black et al., 2003) students have also been asked to assess their progress in an ongoing manner and to identify whether or not they have achieved specific outcomes. Students have responded positively to this expectation. They have appreciated the opportunity to make their own judgements as opposed to depending on me to make the decisions about what has been achieved. More importantly, students have voiced the expectation that if they indicate there are areas they do not understand fully or areas where they feel they need extra help then I will address those needs in my teaching.

Whilst group work has always been a feature of my pedagogical approach the expectations of students as they are engaged with group work have been expanded. Given my belief in the importance of formative assessment to enhance learning, students are now expected to take on a more active role in the processes of learning and assessment. Built into my mathematics lessons are opportunities for students to engage in a dialogue that will help them to clarify and extend their thinking about key mathematical concepts and processes and to explain to each other what they have learned. There is an expectation that students will be not only consumers of assessment and feedback information but also generators of such information (Sadler, 1989). Students have been required to take on the role of teacher, teaching important concepts, first to a partner, then to a peer group and finally to the teacher and the class. In these ways it is hoped that students begin to see assessment as integrated with learning not as a separate activity.

Involvement in the TRLI project: My learning

As a mathematics teacher I always wanted to 'play' with quantitative data and I tended to forget the human element. The action research project has made me consider that the rich conversations that I have with the students is making more of an impact into what I do and why I do it. I had

never 'scratched' beneath the surface, but by doing so the students are now much more confident to talk about what they think, where they perceive they are going and how they are going to get there. I discovered that I had always wanted the students to understand that it is formative assessment that is going to impact on their summative results. In expanding approaches that had already been part of my pedagogy I feel that students are more aware of the formative value of assessment.

I had once heard a quote about trying to do a jigsaw without ever seeing the picture on the box and I think about that quite often in terms of a students' learning experience. In sharing the learning objectives and giving students more power and control over their learning, I feel they are becoming insiders in the processes of learning and assessment. Also, in administering the assessment diamond I feel I have become more of an 'insider', in regard to students' thinking.

Whilst doing the diamond activity at the end of the 2005 academic year, I spoke with a student who had been in our class for six months and had been disengaged during that time. I questioned her about her learning and how she learnt, because, I believe that, for a teacher to understand a student who is disaffected and under-achieving is the key to our profession. I asked the leading question "I want to know how you learn". She said "well the way I like to do it is, I want you to do it first and then I want a bit of time where we do it together".

In order to clarify this I asked "do you mean you and I".

She said "No, it means not just one person, it means more than one person and that can come from my friends or it can come from you or it can come from all of us".

"So you want me to do it and then you want some help from us to do it and then...."

She said "then I want to do it on my own".

So we phrased her words as; **you do it, we do it, I do it**

This conversion was a very powerful moment for me as it confirmed the importance of listening to what the students have to say on how they are learning. She had internalised her own learning and thought about how do she wanted to learn. This proved a catalyst for me. Since this interaction with the student I have endeavoured to live by the mantra, as the teacher, I do it, we do it, you do it.

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Types of Assessment

CLOSED BOOK TESTS	HOMEWORK ASSIGNMENTS
EXAMINATIONS	TICKS IN YOUR BOOK
PERCENTAGES OR GRADES IN YOUR BOOK	WHEN THE TEACHER TALKS TO YOU AND SHOWS YOU HOW TO IMPROVE

SELF-ASSESSMENT	OPEN BOOK TESTS
WHEN YOU ARE ABLE TO EXPLAIN WHAT YOU'VE LEARNT	WHEN THE TEACHER WRITES IN YOUR BOOK AND SHOWS YOU HOW TO IMPROVE

Cut the statements out and place them on the diamond

Put the most important type of assessment at the top and the least important at the bottom.

The one you think is not important at all, place out side the diamond.

Once your happy with your decision glue them in

There is no right or wrong answer. It's your opinion

71

Appendix B

Analysis of the types of assessment

AsTTle Result	When you are able to explain what you've learnt	Self Assessment	Homework Assignments	Open book tests	Closed book tests	Examinations	When the teacher talks to you and shows you how to improve	When the teacher writes in your book and shows you how to improve	Percentages or grades in your book	Ticks in your book
5A		✗	✗	☒		✓✓✓	✓		✗	☒☒
5P	✓✓✓✓		☒	✗✗☒		✓✓✓		✗	✗	✗✗☒☒☒
5B	✓✓✓	✗	☒	☒☒☒		✓✓			✗	✗✗
4A	✓✓✓✓ ✓✓✓✓	✗✗✗✗	✗✗☒ ☒☒☒☒	✗☒☒☒		✓✓✓✓✓ ✗	✓	✗	✗✗✗	✗✗✗✗ ☒☒☒
4P	✓✓	✗✗✗		☒		✓✓✓	✓✓		✗☒	✗☒☒☒ ☒☒☒☒
4B	✓✓	✗	✓	✗✗✗	✓	✓✓✓✓		✓☒	✗✗☒	✗✗☒ ☒☒☒
3A		✗		✗✗		✓✓✓			✗	☒☒☒☒
3P	✓	✗		✗✗☒		✓✓✓ ✓✓	✗	☒	✗✗	✗☒
3B	✓	✓			✗				✗	
2A										
2P				☒		✓				✗
	2 1 | 0 | 0	1 | 1 2 | 0	1 | 3 | 7	0 | 1 0 | 1 0	1 | 1 | 0	2 9 | 1 | 0	4 | 1 | 0	1 | 2 | 2	0 | 1 3 | 2	1 | 1 3 | 2 5

✓ Most important   ✗ Least important   ☒ Not important at all

Types of Feedback

Darryn Rae

Section A: My project

I was interested in two things over the two years of this project:

1. The preferences that students have regarding the form of feedback they receive. I knew that the feedback I gave them could be provided in a number of forms—percentage marks only, grades, written comments without marks, written comments with marks, verbal communication—and I was curious to see which the students preferred. From many years of teaching I have adopted a familiar pattern, mainly because it was easy for me and it involved giving a grade whether a percentage or from the NCEA grades of Not Achieved (N), Achieved (A), Merit (M) or Excellence (E) (or more commonly, NAME) range with corrections but not much on the comment side of things. In Mathematics, providing model answers or corrections is often accepted as a suitable means of feedback—here is your mistake and here is how to correct it! I felt this gave students a grading on their assessment and the corrections were a way for them to figure out where they had gone wrong. I hoped this enabled the students to learn from their mistakes and move forward in their learning as reporting back to students about their achievement is critical if learning and progress is to take place.

2. On a second front, I was interested in finding out just how quickly students expected to receive feedback about their assessment performance. I know that some students were anxious about getting their results back and this anxiety is exacerbated when results were slow in coming. In some cases the delay was beyond my control, such as the processing of internal assessments that need to be moderated, and which therefore involve handling by multiple teachers to ensure a fair and comparable result for all students. However, for class assessments, it is sometimes impossible to have assessment results back to students within two days because of other commitments.

As part of this research project I was provided with a series of readings including:

- *Inside the black box: Raising standards through classroom assessment. Paul Black and Dylan Wiliam*

- *Assessment for learning: Beyond the black box. –Assessment Reform Group*

- *Teacher feedback to students in numeracy lessons: Are students getting good value? Nicky Knight*

- *Formative Assessment in the secondary classroom.* Chapter 2: "Learning objectives and process success criteria" (Assessment Reform Group, 2002)

- "Teachers' conceptions of assessment: Implications for policy and professional development." Gavin T L Brown in *Assessment in Education* Vol 11, No 3, November 2004

From these readings, I realised that my feedback to my students was poor.

However, it also became clear from some of the research that feedback seems to be ignored by students. As a teacher we spend many hours on assessment and reporting back to students on their progress and for this to have any positive effect on where students are now and moving them forward, the students have to act on the feedback. The feedback has to be received and to be acted on if it is to have any value. Often my feedback was too general or disregarded and not helpful in improving student understanding and learning.

I wanted something that was better and more helpful for my students to move them forward so they could reach towards their full potential.

How did I go about conducting this research?

My class and our school

My research was with were in my Year 10 class, which is the top stream Year 10 class in a broad band of five Level 1 classes. These classes are streamed on overall ability, rather than just mathematical ability, which shows in the range of mathematical abilities within the class. The class started with 30 students, had four removed, two added early in term 1, and two new ESOL students added at the start of term 3. There are 18 girls and 12 boys of whom 12 at least have English as a second language.

The ethnic break down in my class is:

- 12 European/Pakeha,
- 2 Maori,
- 7 Indian,
- 2 Fiji Indian,
- 1 Rotuman,
- 3 Chinese,
- 2 Vietnamese,
- 1 Samoan.

This group of students are encouraged to sit NCEA Level 1 mathematics this year with a proportion of them expected to have the opportunity to move directly from Year 10 mathematics in 2006 to Year 12 mathematics in 2007.

My school is a large co-educational school set in an urban area with a decile rating of 4. The school has experienced significant roll growth in recent years, although this has slowed somewhat by reducing the enrolment zone. The roll now stands at about 1900 this year. The school embraces and celebrates cultural diversity, a place where everyone is different. With over 60 different ethnic groups in our school, all teachers can expect ethnically diverse classes, and mine was no exception. The proportion of Indian/Asian students in the school has increased rapidly over the past few years. Our school's student ethnic breakdown is:

- Indian   28.6%
- Pacific   17.9%
- New Zealand European   17.0%
- New Zealand Maori   14.9%
- Asian   14.7%
- Other   6.9%

What I did to explore these questions?

After talking with my mentor, and having just completed a unit on measurement with three different modes of feedback from these assessments, I decided I would like to find out the student's impressions of these three reporting/feedback modes. The first was a Year 10 test with a percentage grade, the second was an asTTle test score returned with their Individual Learning Pathway (ILP), and the final assessment was a Year 11 internally assessed Achievement Standard with the NAME grade counting towards NCEA credits.

I devised a student questionnaire to gauge their responses to a sequence of questions/statements about the three alternative scoring systems. The idea was to see what their preference among these three systems was and why. With this information I hope to be able to provide the most acceptable means of marking and reporting.

These were the ideas that I had for this questionnaire:

MEASUREMENT

I would like to find out about your impressions of different tests.

Your have been given back the Year 11 internal assessment on measurement.

a)   What does the grade (N, A, M or E) tell you?

b)   How helpful is the grade in telling you about your understanding of the measurement topic tested?

            Not much   some …

In your folders, find the asTTle measurement test.

a)   What does the number on the front tell you?

b)   How helpful is the information sheet that accompanies the test?

c)   Have you acted on any of the information on the sheet?

Now find the Year 10 test we did on measurement. Compare this with the other 2 tests above.

a)   Which style of test do you prefer?

b)   Give a reason or reasons for your choice.

Thinking about the return of a marked test

a)   Does the length of time between sitting a test and getting it back have any influence on how you feel about a test and its result?

b)   How soon do you prefer to have your marks back?

After feedback from my mentor this became the following:

MEASUREMENT TESTS SURVEY

I would like to find out about your impressions of three different tests and the results you got recently. This will help me to decide on the most appropriate form of test that will give you the most useful information about your learning.

Each of the tests was scored in a different way, and I want to find out which you prefer and why.

Part A: Year 11 Internal assessment on Measurement.
Your have been given back the Year 11 internal assessment on measurement.
a)   What does the grade (N, A, M or E) tell you about your learning on this topic?
b)   How helpful is this grade in telling you about your understanding of the measurement topic tested? (Circle one number)

Not much help   Lots of help
1   2   3   4   5   6

Part B: asTTle Measurement test.
This is in your folders.
a)   What does the number on the front tell you?
b)   How helpful is the information sheet that accompanies the test? (Circle one number)

Not much help   Lots of help
1   2   3   4   5   6
c)   How have you acted on any of the information on the sheet?

Part C: Year 10 test on Measurement
Now find the Year 10 test we did on measurement.

a)   What did the mark on the front tell you about your learning on this topic?
b)   How helpful is this grade in telling you about your understanding of the measurement topic tested? (Circle one number)
Not much help   Lots of help
1   2   3   4   5   6

Part D: Your preference
Now think about all three tests.
a)   Which test result gave you the best information about your learning in measurement? (Circle one)
        Year 11 type   asTTle type   Year 10 type
b)   Which type of result do you prefer? (Circle one)
        Year 11 type   asTTle type   Year 10 type
c)   Give a reason or reasons for your choices.

Part E: Getting tests back
Thinking about the return of a marked test …
a)   Does the length of time between sitting a test and getting it back have any influence on how you feel about a test and its result? (Circle one)
Yes   No
If Yes, how? If No, why not?
b)   How soon do you prefer to have your results back?
        Any other helpful comments? Thank you.

What did I find out after administering this questionnaire to my class?

- There was almost an equal split of preferences among the three types of feedback.
- The choice of feedback seemed to depend on factors such as which test the students felt gave them the best result.
- 16 out of 26 felt that the asTTle report provided the best feedback.
- 20 out of the 26 gave a 4 or above on the scale reflecting that the ILP was a lot of help.
- Not many have acted on the information, although one of the less able students has been referring to it to fill in the gaps in his knowledge. A few others said come exam time they would revisit them. One said he had revised thoroughly to make sure he was above the NZ mean!
- The asTTle test feedback is very specific and the student could refer to it without looking at the test again and still know what they needed to work on.
- Did better in the asTTle test, found the Year 11 test hard and challenging.
- 5 out of 26 felt that the percentage correct provided best feedback.
- A few of these students had siblings who had gone through prior to NCEA and hence received percentage marks. I feel that this affected their choices.
- A few expressed the not uncommon view that getting the same number of credits for an Achieved and as Excellence was unfair.

Their comments included:

- The year 10 percentage mark - I passed but not by much.
- 83% doesn't help me to know the things I need to work on.
- It makes me look like I didn't do well.
- How well I understand the topic in comparison to everyone else in the class.
- I find it easier to understand a 5 or mark than NAME.
- AsTTle may give the best feedback but I like percentages.
- I like the NAME as A sounds better than 50%. I like the simplicity of the grades, you are either a N, A, M or E.
- Another M means I can understand the basics and intermediate questions but must do the hard questions to get Excellence. Or that I have learnt well but can still improve.
- NAME does not indicate a lot as students can get the same grade when one may have achieved it well and the other just scraped in. It seems the same but is not.
- It (NAME) gives you a general grouping but is not specific enough. The NAME marking is very annoying as it tells me hardly anything.

My top three girl students who are all third children (either youngest or from a 4+ child family) all liked percentage marks best one because they felt it lets you know exactly where you come in the class while NAME just puts you in a big group.

Many of my class felt that as NAME was the kind of feedback they would get in Year 11, so they might as well get used to it. They generally liked the tick box on the test paper that showed them which questions were graded A, M or E.

In this Year 10 class, 25 out of the 31 students are sitting the Level 1 Mathematics external Achievement Standards exam and as such they sat the Year 11 school practice exam where they were given NAME results. They had all also sat the two internal Achievement Standards earlier in the year. If they receive at least a merit in the Algebra, Nonlinear Graphs and Number Standards they will have the option of taking Year 12 Mathematics in 2007, i.e., jumping a year.

In AS1.3, eleven got Merit or better, in AS 1.5 five got Merit or better with 3 getting both AS at merit or better grade. Two students got Not Achieved in one or other of the standards. It is expected between three and seven of these students will have the opportunity to jump a year. However, it will be their choice as to whether they accept this opportunity.

When the students got their practice exam scripts back, each standard had a tick box with their overall grade and the following sheet stapled to it.

_____ received **Not achieved/Achieved/Merit/Excellence** in **AS 90147** because they could:
1 _____
2 _____

In order to achieve **Achieved/Merit/Excellence** next time in this Standard, they need to :
1 _____
2 _____

With my Year 11 Achievement Standard class I personally completed this sheet for each of them, for each of the 5 standards examined. It took me 4 to 5 hours and the students responses where of the "oh yeah" variety where all my work meant little to most of them as they read over the comments but did not go over their scripts to see what I was referring to. It was interesting that even those students who attained a 'Not Achieved' were still able to have something written in the first box.

But, back to my Year 10 class. They were given period to complete their own responses and to have the practice exam gone over with any further questions answered. The corrected answers and working were hand written on their scripts. In the next available period I gave them a questionnaire to complete on the feedback they had written from their scripts.

After sitting the school exam and getting back your marked scripts, you were asked to go through your papers and record what you could do at the time of sitting the exam and what you would have to improve on, in each Standard to move your grade up.
1   Was looking back over your exam in this way helpful?   If so, in what ways?
2   Were you able to see where improvement would be needed to move you up a grade? Did you need teacher help here?
3   Have you done any revision towards this improvement? If so, how much?
4   Was this kind of feedback better than a series of comments made by the teacher on your paper?

In summary to this questionnaire:

1   14 yes, 6 maybe, 3 no
with comments like:
"yes, in a way I know what my weaknesses were but I was surprised and worried by what I got wrong", "yes to know what I have to work on",
"yes I was able to see the errors I had made and will try to improve on this in the future",
"yes, I could see what questions I need to study on"

2   17 yes, 4 no
with comments like:
"yes I was able to see where the improvement would be needed",
"yes the teacher wrote down the equations and working"
"I have found my weaknesses and am concerned about the actions to take"
and
"no, I didn't know what I had to do to move my grade up as it doesn't state which questions were AME"
(each Standard was supplied with a tickbox stapled to it, clearly showing which questions were which)

3   14 yes, 5 no
with comments like:
"yes, going over past papers on the internet"
"yes I have. I do maths everyday"
"I have worked on things that need to be improved"
"yes, so far 10 minutes which is pretty much nothing"
"yes but not a lot"
"no, but I plan to start soon",
"not really, I've been busy with other work"

4   7 yes, 8 no and 4 both yes and no with comments like:
"I think they are both helpful",
"I would appreciate both types of feedback",
"yes, the teacher normally just ticks it or marks it wrong"
"yes, some teachers do budget comments",
"not really, the teacher's comments are better to understand"

What does this tell me and other teachers about the problem I was exploring? What can other teachers learn from this?

In response to this, I will definitely get my students next year to fill in their own response sheet as it does put the onus back on them to find their weaknesses and strengths, with a clear indication

on where they need to improve. Plus one period of class time with the students doing all the writing is a far cry from me writing comments for hours that the students glance over at best. It is all about making the students responsible for their own learning and progress or lack of.

I carried my research out using a series of questionnaires which were easy to administer. However, students often misinterpreted the questions or wrote one word answers yes/no which were not that helpful. It would have been better to follow through after the questionnaires with a discussion to correct any misunderstandings and get longer answers from some of the students. Small groups and then verbal feed back may have generated better results but time is always an issue.

Three things stood out:

- one size does not fit all
- asTTle feedback requires investing time
- feedback given to students has to be accessible to them if they are to move forward with it and make progress.

AsTTle testing would give both the class and teacher an indication of where the class was at before or soon after beginning a unit of work. Peer and self assessment during a body of work puts the responsibility of learning back on to the student, but would involve a time investment on the teacher's part to train the students to 'send and receive' this kind of feedback. The final summative assessment is likely to be standards based with NAME grades as this is what the students will get on their record of learning from NCEA.

One of the things that I found as part of this research is that my students and I have not always interacted in ways that lead to learning and that students are not often asked their opinions about things that impact on their learning. Time for discussion and pondering questions is vital if the learning is to be enhanced and to be a two way process.

What was involved in being a teacher-researcher on this project?

This research project has been a two year process with inspirational meetings with others involved in the project and also discussions with individual mentors in the second year. This has been a time commitment as most meetings were after school and the research was on top of a full teaching load.

The questionnaires did take time away from classroom teaching and put pressure on finishing teaching a topic in the proscribed time. Analysing the questionnaires was time consuming from a data entry point of view, but enormously beneficial in terms of what I learned whereas previously I would have made assumptions based on the students' reaction.

There was no increase in the workload when conducting the testing and providing feedback as these are part of my everyday job. The asTTle tests took only a short time to mark but the data entry was time consuming but they had the benefit of giving very specific feedback to the students on their strengths and weaknesses, even if some of the students were only interested in "am I above or below the mean for Year 10 students".

I found being a teacher/researcher very stressful at times as other home and work commitments kept coming and also demanding my attention. Having a management unit has meant some extra time was available at school

It has been stressful at times, inspiring at others and challenging to my comfort zone. As with most things, where there is a will there is a way - time can always be found to get things done in, if you want to do them. Phone calls can be brief and to the point, meetings can re-inspire you, administering questionnaires does not take too much of a lesson although analysing the data does, thinking and acting on an action plan takes commitment but if you are part of a project like CAF the support network is there for you and seeing the passion others feel for the profession is amazing.

Creative Writing: Tracking Student Progress

Rebecca Sharkey

Rebecca is a 5th year teacher and was appointed Head of English Department in mid-2005. The department has nine full-time teachers and six part-time teachers. For the most part, the staff are relatively new teachers, with only one having served as long as seven years. The school is mid-decile (4M) secondary college with about 40% non-Pakeha/NZ European ethnicity students. She started project as part of her greater concern of how best to raise achievement with low-progress students.

In 2004, I gave results from the follow-up asTTle reading comprehension test system to my Year 9 and 10 students. Usually, assessment results are thrown away or otherwise ignored. This feedback generated quite a significantly different response. The students were intrigued to know how much they had progressed since the start of the year and in what areas they had gained most. This lead to the question of how such positive interest in assessment feedback could be extended to other strands of the English curriculum. Thus, in 2005, a means for tracking student progress in creative writing and for capturing goals, self-evaluations, teacher feedback, and student reflections on the feedback was developed (CWTS). The goal for this instrument was to give students a sense of their progress and to help them use assessment feedback effectively, towards the ultimate aim of raising student achievement.

Method

Two studies were conducted—the first a small scale pilot and the second a more systematic investigation. In 2005, I developed the CWTS and used it once with my Year 10 English class, of between 20 and 25 students. The students tended to have poor attendance and were in the lowest third of academic achievement in the school. The use of the CWTS was rolled out throughout the department so its use was normal in all Year 9 and 10 classes. This report focuses on the students studied in 2006.

Participants

In 2006, I used the CWTS with my Year 10 English class consisting of 18 students which were considered the lowest achievement group in the year. It is worth noting that on average only three students of the 18 would attend five periods in any week; very high absenteeism was the norm. Also not that by chance a few students in the class had had prior experience of the CWTS from their 2005 English class.

Just under half of the class (*n*=8) are female, with six Pasifika (i.e., Samoan, Cook Islander, and Tuvaluan), most of whom are the first generation born in New Zealand. One girl is a South African Indian and one is Maori. Five of the girls have a language other than English as their dominant language at home. The four Pasifika boys are from Samoa and the Cook Islands, four are Maori, and two are New Zealand European/Pakeha. Only three of the boys have a language other than speak English as the dominant home language.

These students were identified as low achievers at their intermediate schools. They were then placed together at Waitakere College in Year 9. The aim was to have two primary trained teachers

teach their four core subjects of English, Mathematics, Science, and Social Studies. Due to staff movement this lasted only one term of their Year 9. They experienced great disruption in their teacher allocations and this appears to have affected their personal stability and academic achievement.

Materials

The main instrument used in this research was the creative writing tracking sheet (CWTS) (Figure 1). This sheet was printed on A3 size paper and retained by the teacher as a log of grades and comments between the teacher and student around a year's work in creative writing. The CWTS has multiple sections:

(a) Formative assessment is a space for students to record their self-rated confidence in carrying out six basic writing skills and comments from the teacher and the student about the first piece of creative writing administered in the year;

(b) Curriculum Levels is a space for the teacher to record a 'best-fit' holistic grade for each task according to New Zealand curriculum levels 2 to 5, allowing for three sub-levels of performance within each level, and with indicators associated with each level;

(c) My Goals is a space for the student to record their goals for each creative writing task based on the cumulative information on the CWTS—for Task 1 the student has their own self-evaluation information, for later tasks there is feedback from the teacher and students comments and grades;

(d) Feedback on Tasks and Improvement is a space for the teacher to record specific suggestions as to what the student needs to improve on and for the student to record their response to the teacher's comments;

(e) Summative assessment is a space for the student to record their personal response to the curriculum level grade given to each creative writing task;

(f) End of Year is a space where the student reflects at the end of the year their personal evaluation as to the whole year's work in light of all the comments and grades recorded on the sheet; and

(g) the Improvement Scale is a visual display of the curriculum level grades received by the student on the creative writing tasks. As can be seen, the CWTS is based on many of the principles of formative assessment: goal setting, specific information about what has been and has yet to be achieved, dialogue between teacher and student, personal reflection and self-evaluation, and monitoring of performance changes.

This study involved student performance in creative writing in response to two different writing tasks. The tasks were both poetry writing, related to units of literary study related to horror (Figure 2) and Pacifica (Figure 3). The Horror task consisted three acrostic poems in response to provided terms (i.e., BLACK CAT, HAUNTED HOUSE, and CEMETERY), while the Pacific task required students to complete five poems of different types (i.e., haiku, shape, onomatopoeia, emotion, and free form) around Pacific themes.

The third instrument is a student self-report questionnaire (Figure 4) about the effect of the teacher's lessons and the CWTS on their ability to write creatively. Students responded to five statements on each topic using a six-point, positively-packed agreement response format. This

procedure is useful when participants are expected to be generally positively inclined and allows for finer distinctions between those who are only slightly positive and those who are strongly positive.

Procedures

In Term 1, 2006 students were introduced to a Horror unit and asked to complete the Horror Poetry task. Students were given the task and then asked to complete the Self-Evaluation and Goals sections of CWTS in relation to that specific task. Students were then given two and a half lessons to do the three tasks on their own. The teacher then scored the set of poems holistically against Curriculum Levels indicators and recorded the grade on the CWT with any appropriate formative feedback comments. The student received the graded poems and CWTS and then completed their own evaluative comments in the Feedback on Tasks and Improvement section to give the teacher feedback about what they understood the grade and comments to mean.

In Term 2 and 3, 2006, the class worked through a unit on Pacific poetry. The teacher presented the anthology task, students set goals, and completed the tasks in class by the end of Term 3. The teacher marked the assignments, completed the relevant parts of the CWTS and returned the materials early in Term 4. At the time the students received these materials, they completed their part of the CWTS and the opinion questionnaire about the quality of lessons and the effect of the CWTS.

The findings from this study are yet to be completed.

Figures

Figure 1. Creative Writing Task Sheet

Figure 2. Horror Poetry Writing Task

Figure 3. Pacific Poetry Writing Task

Figure 4. Student Evaluation Questionnaire

Figure 1. Creative Writing Tracking Sheet

Creative writing tracking sheet   Name:_____ Class:_____

<table>
<tr><td colspan="3">Formative assessment
Self evaluation: from 1-5 rank your confidence in the following skills:

☐   I enjoy writing

☐   I can spell well

☐   I can paragraph my work

☐   I can plan and brainstorm well

☐   I can write in the present, past and future.

☐   I know how to write a sentence.

Feedback from first piece of writing (Formative)
Student:
Teacher:
_____</td><td colspan="4">Summative assessment
How do I feel now? What did I learn?
Task one:

Task two:

Task three:

</td></tr>
<tr><td colspan="3">Curriculum levels</td><td colspan="4">Feedback on tasks and improvement:</td></tr>
<tr><td>Level 2</td><td>☐ Some work to do
☐ Almost there
☐ Mastered the level!</td><td>Attempted work
Ideas shaped in sentences
Beginning to make appropriate spelling and vocab choices</td><td></td><td>Task 1</td><td>Task 2</td><td>Task 3</td></tr>
<tr><td>Level 3</td><td>☐ Some work to do
☐ Almost there
☐ Mastered the level!</td><td>Expresses ideas imaginatively
Using some language techniques
Appropriate mechanics
Some editing of work</td><td>Student evaluation

Teacher Evaluation</td><td></td><td></td><td></td></tr>
<tr><td>Level 4</td><td>☐ Some work to do
☐ Almost there</td><td>Expresses ideas imaginatively</td><td></td><td></td><td></td><td></td></tr>
</table>

86

		Appropriate mechanics Paragraphs structured Variety of language techniques used Edits work	Imagination = expressing yourself and ideas creatively and differently and avoiding the well trodden path.
	☐ Mastered the level!		Language features = adjectives, adverbs, interesting verbs, similes, metaphors, imagery etc…
Level 5	☐ Some work to do ☐ Almost there ☐ Mastered the level!	Expresses ideas imaginatively and creatively Appropriate language used for deliberate effect Paragraphs structured well Variety of language techniques used Edits work Sound understanding of mechanics	Mechanics = spelling, paragraphs, syntax, tenses.

Mechanics = spelling, paragraphs, syntax, tenses.

End of year:
Where you are now…..

My Goals for this year are:
Task one:

Task two:

Task Three:

Improvement scale

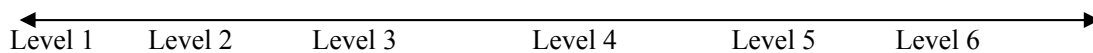Level 1   Level 2   Level 3   Level 4   Level 5   Level 6
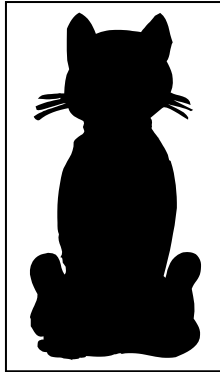
Figure 2. Horror Writing Task

HORROr-ostic

Acrostic poems around the theme of horror

Wicked laugh as she rides into the night
Innocent children are unaware of her presence
Terrifying look on her face as she peers through windows
Cackles as she plucks a child from his bed
He'll never be seen again…….

Follow the ABOVE example to create your own poems

B
L
A
C
K

C
A
T

H
A
U
N
T
E
D

H
O
U
S
E

C
E
M
E
T
E
R
Y

Figure 3. Pasifika Writing Prompt

My Pacific poetry anthology

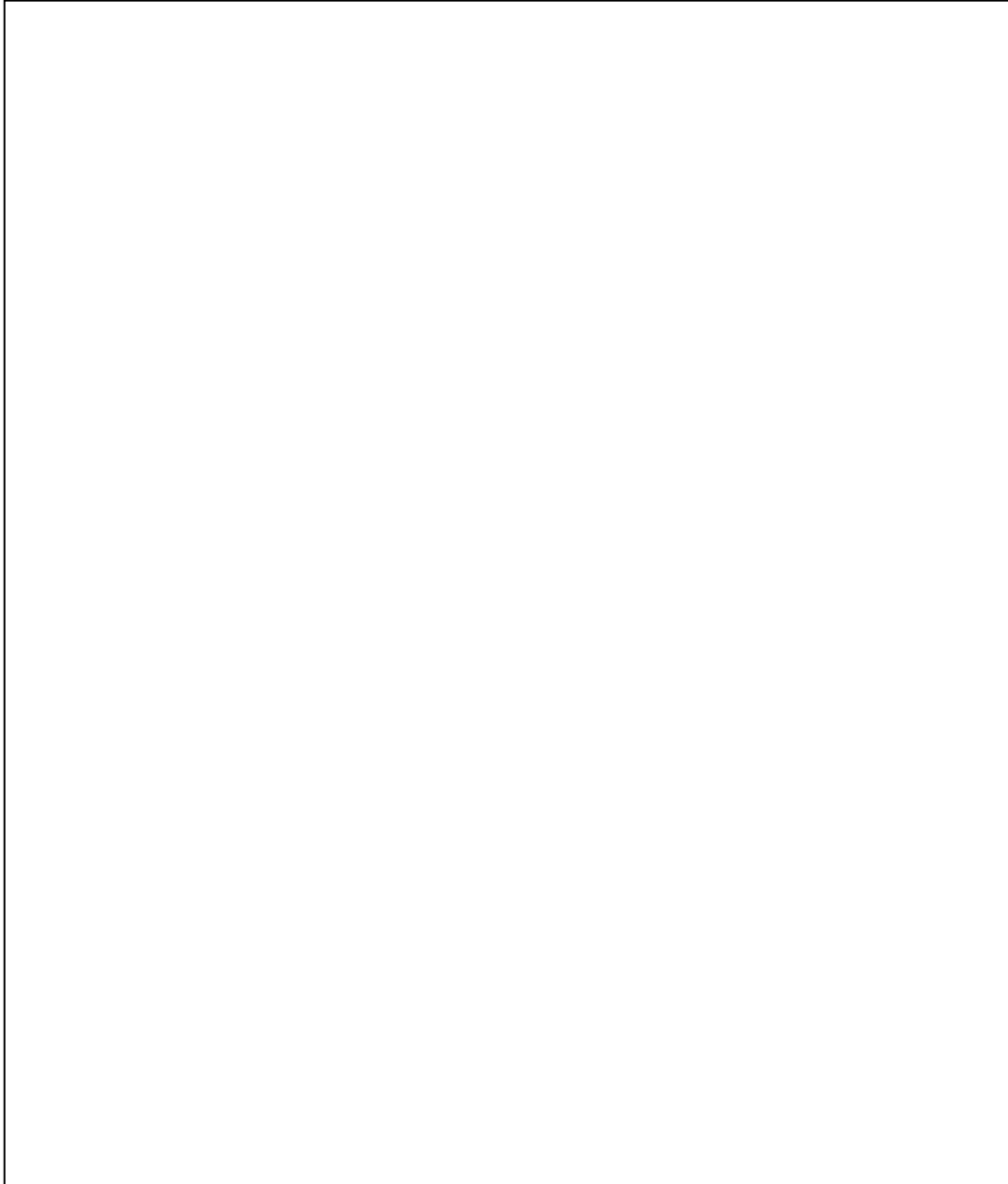Name: _____

Poem number one

_____

_____   _____

_____   _____

_____

_____   _____

_____   _____

_____   _____

_____

_____   _____

_____

Poem number two

Shape poem

Draw the shape of a hibiscus, coconut palm or the beach and write a poem about it to

fit inside your drawing.

Poem number three

Onomatopoeic Poem

To write this poem you need to list the words that describe the sounds of a place or an event. I.e A market on Saturday morning, a family gathering, people on a beach, being on a boat……

Write your poem here

Draw a picture for your poem here

Poem Four

Emotion poem

Choose an emotion that you would feel on an island i.e love, happiness, contentment, joy,

What colour is your emotion?
What does it taste like?
What does it smell like?
What does it look like?

What does it sound like?

What does it feel like?
What is your emotion?

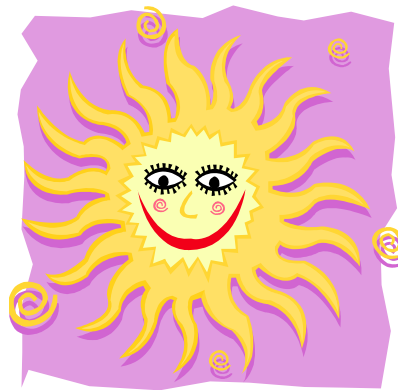Now write your poem

_____ is _____

It tastes like

_____
It smells like

_____
It looks like

_____
It sounds like

_____
It feels like

_____
_____ is _____

Poem five

Write a free form poem about being in the middle of a hurricane. What do you see, feel, taste, smell? What is happening? What is the aftermath?

Figure 4. Student Questionnaire
NAME: _____ Class: _____
What effect did the Teacher's lessons and feedback have on your creative writing?

A.   Using the teacher's lessons about writing

	Strongly Disagree	Mostly Disagree	Slightly Agree	Moderately Agree	Mostly Agree	Strongly Agree
I used what the teacher taught us while I was writing:						
the teacher's lessons helped me improve my writing						
the lessons made me feel more confident in doing my writing						
I was happier doing this writing because of the lessons the teacher gave us						
I paid attention to the things the teacher had taught us while I was writing						

B.   Using the Creative Writing Tracking Sheet

	Strongly Disagree	Mostly Disagree	Slightly Agree	Moderately Agree	Mostly Agree	Strongly Agree
I made use of the tracking sheet while I was writing						
the tracking sheet helped me improve my writing						
the tracking sheet make me feel more confident in doing my writing						
I was happier doing this writing because I had the tracking sheet						
I paid attention to the things the tracking sheet said I should						

C.   Do you have any other comments about the effect the lessons or the tracking sheet had on your ability to write creatively?

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