Students' Experience of Assessment

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Executive Summary

As we endeavour to promote learning in students, it becomes imperative for us to better understand the processes through which that learning takes place. Part of that understanding naturally concerns the assessment process, and how students experience assessment. That is the focus of this paper. We consider assessment to be a process more than an event, and in that process, we see assessment as consisting of threads that precede assessment as well as proceed from it. At certain points in the process, these threads coalesce at an assessment nexus point such as taking a test, handing in an assignment or a project, or receiving feedback (and perhaps a mark) from a teacher. The research on assessment has evolved over a number of years, but has become a particular point of interest within the last ten or so years. Most of the research on assessment, though, has looked at how assessment influences instruction, what kinds of assessment teachers prefer, etc. Relatively little attention has been paid to how students receive and react to assessment, from a social, emotional, or psychological perspective.

We look at the literature that does exist on the topic, breaking our analysis down into the topics of feedback, learners as active participants in classrooms with positive assessment climates, motivation and effort, the quality of assessment tools, student well-being, and alignment of policies and practices. We then look at how these ideas play out at different levels of schooling. We consider how assessment changes from the perspective of the student as one moves from the early years of schooling through to taking NCEA examinations. We finish the paper with the following list of recommendations for the future (in abbreviated form here):

1. Students need to learn how to use assessment feedback from an early age.
2. We need to better understand how students respond to assessment.
3. We need to learn how to promote positive classroom assessment climates.
4. We need to better understand how classrooms work and how assessment fits into effective classrooms.
5. We need to promote the students' voice in learning and assessment.
6. We need to understand how students work on assessments that are longer in duration and exist to a degree outside of the confines of the classroom.
7. We need to teach students how to monitor and self-regulate their independent learning efforts through better self-assessment.
8. We need to consider how students will react to major changes in curricular and assessment practice and policy. This should be a regular part of the consultation process. If we desire good outcomes from changes in policy and practice, we need to think those changes through from the perspective of the student.
9. We need to know how students experience 'tests' that are a regular part of classroom and school life such as, PATs and asTTle.
10. We need to better understand which types of assessment tasks students feel they are able to best demonstrate their level of understanding and skills.

In short, and in sum, the ten recommendations listed above can be boiled down to the simple phrase, "Think of the students."

Introduction

Promoting children's learning is a principal aim of schools and assessment lies at the heart of this process. Assessment may not be exactly similar to physics in that "for every action there is an equal and opposite reaction", but it is clearly the case that assessment engenders action (and reaction) on the part of students. Students experience an extremely wide range of assessment during their educational years, from early childhood settings, through primary and intermediate schools into secondary school and beyond. Some assessment would be recognised by students as such; other assessment would be so closely related to learning experiences that they would not be discernable, and students would be unaware that they were being assessed.

In fact, according to Carr, McGee, Jones, McKinley, Bell, & Simpson (2005, p.47) citing the work of Black and Adler (1996):

> … it is deceptive to speak of assessment in the singular, as if it were a uniform activity perfectly controllable by a single agent. Assessment intervenes in the educational system in many ways... Assessment is multiple. It has to embrace the whole work of learning and it has to relate to the whole work of teaching, and then to assess the effectiveness of this combined work.

Our purpose in this paper is to look at how assessments influence students in a variety of ways. The relationship between assessment design and decisions, and students' reactions to them, can be seen most dramatically in the New Zealand National Certificate of Educational Achievement (NCEA). Students reveal themselves to be intentional, astute and strategic in how they choose to meet NCEA requirements. Through the decisions they make about how they can collect credits that minimise/optimise the amount of effort required and offer the 'path of least resistance', students demonstrate that they will respond to an assessment environment in a fashion that they feel is in their best interests. However, we believe that students' experiences with classroom-based formative assessment activities are equally important as assessments for national qualifications because of the demonstrated power of assessment to influence student learning (e.g., Black & Wiliam, 1998).

In this paper, we propose to look at a number of issues that are related to or impact on how students experience the process of assessment. To that end, we define assessment as a process that begins antecedent threads embedded in classroom instruction and assessment preparation, crystallizes in various events and activities that we call nexus points of assessment, and then entails post-assessment threads again of actions, emotions, and reflections based on the assessment information and experiences. We then look at assessment from the perspective of the student, considering issues such as response to feedback, motivation, effort, and student well-being. We then look at different levels of schooling to see how the issues we have considered have different emphases and degrees of impact for different levels of schooling. We conclude by looking forward to what we need to know that we do not currently, and make recommendations for action at a variety of levels.

Assessment as a Process

Assessment is often viewed as an activity or an event: the time when the assessment is given, or the assignment is completed, or the presentation in front of the class is made, even when an individual student responds to a question from a teacher during a lesson. However, assessment, particularly formative assessment, or *assessment for learning*, is more properly viewed as a process.

In our thinking on the topic, we conceptualise assessment not as an event, but as a process that involves "threads" of activities that relate to assessment, and a specific assessment activity (the "nexus"). Threads of assessment both precede an assessment nexus (such as instructional activities, learning experiences, and assessment preparation) and follow on from the assessment nexus (such as, feedback, identifying the next learning steps, understanding students' strengths and weaknesses, decisions about future pathways of study or employment). These threads coalesce at a point of assessment - the "nexus"- (such as taking an NCEA examination, or answering a teacher question during instruction). Klinger & Luce-Kapler (2007) have used a similar conceptualisation of assessment and assessment-related activities around the testing timeline of the Ontario Secondary School Literacy Test (OSSLT): preparation through the testing process to the resulting perceived impact of the test.

The threads of assessment are somewhat loosely coupled aspects of instruction, classroom and otherwise, that are related to what students are intended to learn, and what is later to be realized in more concrete form in an assessment nexus. Examples of threads that precede an assessment nexus might be a statement such as, "Pay attention to this idea class, because we will see it again later at several points….", or a reinforcement of the specifics of a learning intention, "That's an excellent example of what we are working on here." Examples of formative threads that follow an assessment nexus would be teachers' and students' responses to the information provided by the students' performance. But the act of handing back an assignment and going over it explicitly with students would be viewed as more of a nexus, as it is focused directly on the assessment itself, as well as its consequences. When a student thinks back on that feedback and says to herself, "I've got to make sure this paragraph has a good topic sentence," then that would be an example of a thread. The distinction between the two is not a bright line; we use the two terms in order to think more carefully about them and to highlight the notion that assessment is occurring at a kind of quiet level in many instructional settings and activities.

Nexuses and threads are not limited to formative assessment. Examples of 'summative' threads that follow an assessment event (such as NCEA) would include decisions made by the student (perhaps in consultation with their teacher and parents) about the next study or employment pathways. In fact, we can all remember assessment activities from our school days, and they probably still have some influence over our behaviour.

The notion of when assessment becomes focused relates somewhat to the notion of assessment as an event. We choose the word nexus here because there doesn't necessarily have to be an assessment event such as a test, or a project being handed in, in order for assessment to be focused. In fact, we argue that thinking of it in that fashion is probably artificial to a degree. Take one of the clearest, and most important (from a student's perspective) assessment "events" in the lives of students:

sitting for an NCEA examination. One can reasonably argue that sitting for the exam is a clear example of an assessment event. But, solely attending to the actual sitting of the examination ignores all that preceded the examination, and aspects that follow the examination. General preparation and studying are more thread-like, and taking practice tests and getting directed feedback from them being more nexus-like.

The idea of assessment as a process is one we encounter regularly as adults in everyday life. If we bake a cake for visitors, the threads have to do with mixing the ingredients correctly, and checking to see the mixture seems to have the right consistency, ensuring that the oven setting is correct, and removing the cake at the right point in time. The assessment nexus occurs when the cake is served. We eat a piece and make a judgement, but the visitors do as well. Are those comments valid, reliable, unbiased? How do we combine them with our own assessment, or that of our partner? Having taken in the feedback, how do we make sense of it? How do we relate the texture of the cake to the consistency of the mixture, or how long the cake was in the oven? Two points are worth carrying forward here: first, we engage in assessment all the time. Sometimes we eagerly anticipate the feedback, and sometimes we dread it (e.g., stepping on the scales the morning after a particularly successful cake baking event!). Second, as independent adults, we have to process assessment information in an ongoing fashion. We need to know *how to process* that information and be able to make the best use of it. Where do we learn that? Do people differ in their ability to do so?

The Student Side of Assessment

We now turn our focus to the student. The assessment process we have discussed above, when it becomes real in a classroom, involves the activities and responses, social, emotional and cognitive, that students go through during an assessment. We described some of the threads of assessment above and suggested possible nexus points. Some possible nexus points in the assessment process include:

- the point at which an assessment is announced or communicated
- the process of preparing for an assessment or working on an assignment
- taking the assessment or handing in an assignment or project
- waiting for results
- receiving results/feedback from the teacher

At each of these nexus points, there are social, emotional, and cognitive responses from the student. We believe these responses are influenced by the characteristics of the students as well as by the assessment setting. We additionally believe that these issues play out quite differently at different levels of schooling. Thus, there is no "one answer fits all" approach to these issues as students progress from the early years of primary school to the advanced years of secondary school (and beyond to university and the lifelong learning of adulthood). Given different assessment settings and different kinds of students, how do students respond, socially, emotionally and cognitively, to the various threads and nexus points of the assessment process? Our approach will be to find what literature is available and what kinds of research are needed to address the gaps.

Historically, "the student voice in school learning and the assessment of their progress has been a whisper, if not silent" (Smith and Smith, 2007). Much of the

literature and research concern students' experiences of assessment through the perspective of others, such as their teacher. Relatively little research has reported students' perspectives on assessment experiences directly. Given those limitations, this section seeks to draw out what we do know about how students' experience of assessment (as a process) directly from a range of studies which have sought to understand the intricacies of effective formative assessment practices within the classroom, the effects of large-scale compulsory testing on students, and the effects of assessment for qualifications. These studies are grouped under the following themes:

- formative assessment strategies – feedback
- learners as active participants in their own learning
- motivation and effort
- high quality assessment tools
- student well-being
- alignment of education policies and assessment practices

Formative assessment strategies – feedback

> *"Moving toward more modern pedagogical conceptions, assessment moves from an information source on which to base action to part and parcel of the teaching and learning process."* (Joan L Herman, Osmunsdon, Ayala, Schnieder, & Timms, 2006)

The use of formative assessment as a means of improving student performance has received renewed attention in the research literature in recent years (e.g., Black & Wiliam, 1998; Hattie, 1999; Shute in Lipnevich & Smith, 2007). As a result of his substantial meta-analyses of the literature, Hattie (1999) argues for 'dollops of feedback' as being a key factor in improving students' learning. However, not all feedback is the same and not all feedback is equally effective in promoting learning (Black & Wiliam, 1998; Hattie & Timperley, 2007). The meta-analyses by Bangert-Drowns, Kulik & Morgan (1991), Kluger and DeNisi (1996) and Hattie and Timperley (2007) found substantial variability in the effects of feedback. The key feature in effective use of feedback would seem to be that it encourages "mindfulness" in students' responses to the feedback.

Hattie and Timperley (2007) concluded that feedback tended to be more effective when (i) it focuses on a particular task and how to do it; (ii) it addresses the questions of what the goals are, where the student currently stands in relation to those goals, and what the next steps should be for reaching those goals; (iii) it focuses on the level of the task (rather than the person), the processes that are required to complete the task, and the self-regulatory activities related to successful task completion. We find this meta-analysis to particularly compelling. It shows how important feedback is in learning, as well as providing a strong conceptual argument for what kinds of feedback are more effective and less effective.

While our understanding of what constitutes effective feedback grows, its effectiveness has been largely measured in two ways: changes to students' performance, and from the perspective of teachers. Lipnevich & Smith (2007), for example, undertook a study of the relative benefits of different forms of feedback (detailed descriptive comments, grades and praise, and combinations of these) for

tertiary students using an experimental design. They reported findings consistent with many other researchers: detailed descriptive feedback specific to individual work was most effective when given without grades or praise. The effects of grades and praise complicate the patterns of benefits somewhat.

What is missing from the research literature is the students' voice; that is, an examination of feedback from the students' perspective: how do students receive, understand, interpret, and act on feedback provided? That students' perspective is indeed a valid and valuable perspective to explore is not necessarily taken for granted. Williams' (2001) quotes one New Zealand education professional as saying "Ask kids what they think about the effects of formative assessment on their learning? Why? What on earth would they know about assessment? Wouldn't it be better to ask the teachers" (2001, p.2). In contrast, Tunstall and Gibbs (1996) assert that "all learners, of whatever age need the same support: praise and reward linked with the recognition of competence together with the provision of strategies for developing critical appraisal" (p.202).

Assessment itself provides opportunities for students to display their thinking and to be engaged with feedback that can help them extend, refine, and deepen their understandings, and reach more sophisticated levels of expertise. For example, interim assessments or quizzes during the course of instruction or questioning during class discussions can serve to elicit students' thinking, feedback can be used to encourage students to confront their misconceptions, and the process itself can be instrumental in helping students move to higher levels of understanding (Gitomer & Duschl, 1997). Lipnevich and Smith (2008) conducted focus groups of first year tertiary students who had been randomly assigned to groups that had either received feedback (no feedback, and then two different approaches to feedback), grades or not, and praise or not (in a 3 X 2 X 2 design). One of the main findings in the study was that students receiving preliminary grades tended not to do well in their revisions of an essay unless they also received a statement of praise. In the focus groups, students who received a low preliminary grade said that they were basically devastated by the grade, put into a negative mood, and had their self-efficacy damaged. Students receiving high preliminary grades indicated that already having a high grade, there was little motivation to work more on their essays. Students who simply received feedback without a grade did not have either of these problems. All students who received feedback and were allowed to revise their essays based on the feedback were quite enthusiastic about this type of approach to assessment.

Formative assessment thus serves multiple functions in instruction and learning, and the rationale for its benefits on learning is multifaceted. When our instructional pedagogy is framed around child-centredness, developing self-regulation and effective life-long learners, and students as active participants in the teaching and learning process, it is imperative that the student perspective be heard.

Feedback from the teacher, and sometimes from their peers, is the key to operationalising assessment for learning (Sadler, 1989), but it is a complex and challenging process. Feedback is generally defined as information that gives the learner the opportunity to see how well they are doing or have done and what they might do next to enhance their performance and knowledge. Tunstall & Gipps (1996) found that students as young as 7 and 8 understand the distinction between teacher 'evaluative' feedback and 'descriptive' feedback. Descriptive feedback includes the

information required by students to move their learning forward. Tunstall & Gipps concluded that it is through the mutual construction of achievement and improvement that student become active participants in assessment for learning. This was also the case in Williams' (2001) study of Year 8 New Zealand students, and McKay's (2007) study of secondary school mathematics students of what's important and what helps them make progress.

Williams (2001) found that year 8 New Zealand students (i) were aware of how often they receive different types of feedback from their teacher, with girls showing a greater awareness than boys; (ii) perceived 'helpful' feedback in varying ways, with a preference expressed for oral feedback; and (iii) "articulated their intuitive understanding" of [feedback] - "an impressive testimony to their understanding of the issues" (p. 86). Namely, 'helpful' feedback told them what they have achieved; what they have done right; what they have done wrong; and how they can improve.

Cowie's (2005) investigation of secondary students' experiences of being assessed during a science lesson identified three themes from their commentaries:

- *the importance of teacher-student and student-student relationships:* Students wanted: to be able to trust that teachers and peers will treat their ideas with respect; teachers to 'come around' and talk to them and help them with their learning while they are learning on tasks; more opportunities for one-to-one interaction with teachers
- *the need for teacher feedback to maintain student active engagement in learning and its progression:* Students wanted: more than information as to whether ideas are right or wrong; teachers to explain why their work is not excellent, or only good; teachers to use language that they can understand; opportunities for personalised feedback; teachers to provide them with suggestions about 'where to next'
- *the potential for peers to provide timely and useful feedback:* Students recognised: it is not possible for teachers to give them individual feedback on all their ideas every lesson; discussion with peers can be valuable to clarify their ideas; peers care usually easily accessible so can provide timely feedback; peer feedback uses language and ideas students can understand.

Furthermore, "students implied that they simultaneously pursued intellectual and social goals, the latter supporting the former. Their participation in assessment for learning had multiple, and often competing academic, affective and social purposes and consequences. Assessment for learning impacted on their learning and how they were seen and treated within the classroom. It also impacted on how they felt about themselves" – a delicate balance. (p.110)

In reviewing the literature about students' understanding of feedback, Moni et al. (2002) drew a number of conclusions:

- students understand feedback in different ways
- the teacher's intention can be misinterpreted in oral feedback as well as written feedback
- as students progress through school, many become increasingly negative about assessment and concerned about the assessment process

Moni et al.'s own study focussed of students' experiences of assessment as they made the transition from primary to secondary schools in Australia. Several pertinent findings concerned the importance of a positive assessment climate within the classroom. Students' attitudes towards assessment affected their participation in assessment and the value they placed on assessment methods and tasks. These influences were related to their previous experiences of assessment, their own confidence in their own ability, as well as their familiarity with the type of assessment tasks they were required to undertake. The findings suggest that the first tasks set by a teacher are very important in terms of developing students' confidence. It is not just the teacher who decides what counts as assessment, but students also actively construct knowledge about assessment through their current and prior experiences with assessment tasks and in their interactions with each other. The authors warn that "failure to consider students' perceptions and understandings of [assessment] practices may lead to less effective assessment." (p. 337).

Tunstall and Gipps (1996) looked at students' perceptions of teacher feedback in 'formative assessment classrooms', specifically, the types of feedback given by teachers, and how children interpreted, understood and acted on the feedback. The research revealed that even very young children (7 and 8 year olds) understood a wide range of teacher feedback and could 'articulate freely shared, evaluative experiences and self-monitoring strategies'. Students appeared to have attitudes consistent with the intended changes to classroom practice.

Learners as active participants in a positive classroom assessment climate

Crooks (1988) provides compelling evidence that the impact of classroom assessment extends beyond an effect on what and how students learn, to influence their motivation, self-esteem and confidence. Cowie (2005) concluded from her study of student commentaries about assessment in their science classes, that students saw themselves as active and intentional participants in classroom assessment interactions. "Their participation in these interactions had multiple, and often competing cognitive, social and affective purposes and consequences that they experienced as inextricably intertwined." (p. 150)

Timperley & Parr (2005) found that students' understanding and performance (in writing) very much depended on how explicit their teachers were about the learning aims and the criteria for success. It was not a matter of student ability; rather, it was an understanding of what "the secret" of what they were supposed to be learning and the associated success criteria. Students improved when let into the "secrets of success". As argued above by Sadler (1998), and demonstrated by Nuthall and Alton-Lee's (1992, 1997) and others' research, the learning environment/climate is fundamental to effective student learning. The features of effective schools apply equally to creating an effective classroom. Carr et al. (2005) cite Newmann and Wehlage (1998) and Levine and Lezotte (1995) in defining the specifications for an effective school to include:

> "a productive school climate and culture reflecting shared values; a safe and orderly environment; teacher commitment to a shared and articulated mission focused on improving achievement; a problem solving orientation; staff cohesion, collaboration, communication and collegiality; staff input in decision-making; a school-wide emphasis on recognising positive performance."(p. 66)

One needs little imagination to translate these specifications to an effective classroom where the major partners are teachers and students.

Research that has sought students' opinions about how they feel about feedback within the context of the classroom indicate that they are more willing to interact with others (the teacher and other students) in ways that disclose their thinking when "social relations are based on mutual trust and respect" (Rudderick et al. in Carr et al., 2005, p.110).

Bewley & Smarden (2007) investigated what students said about how classroom dialogue might support their learning as part of the Assessment to Learn AToL) professional development programme. The researchers found that while investigating student voice for the purposes of informing teachers' learning and improving their practice, some student responses indicated that the opportunity for students to talk about their learning, through an interview process, may also improve their learning. They quote Flutter & Ruddick (2004, p.8) "Giving young learners opportunities to think and talk about aspects of teaching and learning can have an indirect impact on students' meta-cognitive development and on their understanding of how they learn."

Motivation and effort

The development of students' self-regulatory abilities is a desirable outcome of effective formative assessment strategies. The development of this ability appears to be enhanced in classrooms where formative assessment strategies are at "the heart of the matter" (Ball & O'Connell, 2007). Sadler (1998) views self-assessment as a skill in itself that must be consciously built into classroom programmes if it is to be learned. By teaching these strategies explicitly, teachers enable all students to make significant gains in their learning.

Wise & Smith (2007) point out that educators have long recognised that motivation and effort are important when students are assessed. However, students are ultimately in control of how much motivation and effort they expend. They argue that students take examinations (tests/assessments) under a variety of conditions and that different types of assessment hold greater or lesser consequence (stakes) for them and therefore engender different levels of motivation and effort. One might expect formative classroom assessment would generate less motivation and effort than an external examination. However, even in a high-stakes examination, such as NCEA, students have been known to display low levels of motivation and effort. Meyer, McClure, Walkey, McKenzie & Weir (2006) found that student characteristics, such as motivation, influenced student achievement across all levels of NCEA. In a follow up study, Weir, Meyer, McClure, Walkey, & McKenzie (2007) report that two motivation orientations, "doing my best" and "doing just enough" predicted higher and lower achievement respectively in a given year, and also predict achievement differentially across different ethnic groups. This suggests that an additional motivation orientation may need to be developed to more fully capture the motivational constructs important for diverse New Zealand students.

Wise & Smith (2006) introduce the concepts of 'item demand' and 'effort capacity' as part of a model of test-taking motivation. They argue that motivation and effort may change during an examination because students' encounters with individual questions affect their ongoing motivation and effort. They also conclude from their research about students' motivation and effort in taking tests that:

- students can vary substantially in the amount of effort they give to a test
- generally, test-taking effort is unrelated to academic ability
- most students give good effort to low-stakes tests
- students' effort can change during the course of a test
- Providing incentives can sometimes increase students' effort
- Students give more non-effortful responses to questions occurring later in a test, questions that are more mentally taxing to complete; and questions with more reading

It is not surprising that students show deliberate self-interest in their assessment-related behaviours. An interesting question related to this observation is how such perceived self-interest affects how students respond in the "threads" of the assessment process as well as the nexus points. Do students study hard for tests that have little interest or consequence to them? Are they really focused on in-class discussions or teacher's questions? Do they take the feedback they receive to heart? These are issues that really exist in the seams of assessment and instruction and are questions we need to understand much more fully than we currently do.

Part of the student response to assessment activities has to do with the nature of the activities themselves. What causes assessments to be appealing to students? Smith & Smith (2007) examined the nature of the assessment tasks by asking students which NEMP tasks they liked and disliked. The positively rated tasks typically had a content that was enjoyable to students (computers, pizza, favourite books), and frequently let the student take charge of the task. That is, they tended to be less focused on right answers and more focused on what students thought about the issues under consideration. They also tended to have an active component to them. Choice was also a factor in student preference. Students did not like tasks that involved performing in areas in which they weren't comfortable, such as speaking in Maori (taught in all schools), or singing in front of a group.

High quality assessment tools

Even within a discussion of the student side of assessment, it is worthwhile to consider the teacher side of the interaction. One of the concerns here is the ability of teachers to engage in solid assessment behaviour, and what might influence that behaviour. Available teaching materials lack the types of systematic and sensitive assessments that teachers and students need to both spark and make visible students' thinking and to discern the details of student progress to inform subsequent action. Moreover, teachers and schools have limited background and capacity to engage in assessment (Heritage & Yeagley, 2005; Herman & Gribbons, 2001; Plake & Impara, 1997; Shepard, 2001; Stiggins, 2002). This means not simply the ability to devise, administer, and mark assessments, but, probably more importantly, the ability to effectively incorporate them in the broader assessment process. As Black & Wiliam well note, assessments can only become formative when information from them is

used to adapt teaching and learning for the benefit of student learning.

Figure 1 below summarizes the conceptual model underlying the study of…. In essence, the CAESL 'tetrahedron' makes a number of assertions. First, it asserts that sound formative assessment must be based on both quality assessment tools and quality use of information from such tools.

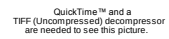

Figure 1. CAESL quality classroom assessment framework.

Learning must be orchestrated in complex ways that bring together a variety of teacher expertise—strong content knowledge, sophisticated pedagogical knowledge and strategies, effective assessment, and strong routines and norms for student engagement. The CAESL 'tetrahedron' is a potentially useful tool for understanding classroom assessment practices, but much work remains to better understand the specific dimensions of what constitutes quality tools and quality use.

Student well-being

An emerging area of research interest focuses on the well-being of students as they participate in educational activities, such as, curriculum, teaching, and assessment. This relates in large part to the emotional, and psychological health of students and how schooling might enhance or endanger such health. The demands

and stresses associated with assessment are part of the overall picture of student well-being. Putwain (2008) reports on research has indicated that 13% of students in the UK experience a high degree of assessment-related stress/anxiety, which may have debilitating health, emotional and educational effects. Recent policy initiatives have attempted to encourage a responsibility for promoting well-being in schools. In order to fulfil a commitment to be responsible for student well-being, a raising of consciousness surrounding the issue of assessment-related stress/anxiety is required by educators and those involved in educational management and policy-making. They need to consider what existing school practices may be implicated in increasing stress/anxiety and what initiatives could assist in its reduction and/or management. Klinger et al.'s (2007) study of Canadian students' experiences in preparing to sit the OSSLT also highlights the importance of providing students with experiences to reduce student test anxiety/stress.

Alignment of education policies and assessment practices

The relationship between policy and practice in education and assessment is highlighted in Hill (2000), Eyers & Hill (2004) in New Zealand, and Furhman (2008) in the US. Their research has shown that the self-managing school polices for accountability in New Zealand often work against teachers using assessment for improvement through feedback. The question of how to turn teachers away from this as the main focus and back toward the use of feedback for improvement is not straightforward though. It is not simply a matter of professional development (Dixon & Williamson, 2003; Hill, 2000). If disparities are to be addressed, cultural, contextual and co-construction strategies will need to inform teachers' feedback practices. Eyers &Hill (2004) conclude:

> "Just as teachers turned to check listing when the education policies of New Zealand required that schools account for children's learning in terms of the achievement objectives, national and school policies aligned with feedback and feed-forward would provide a powerful driver to turn classroom practice in a formative direction". (p. 259)

Brown and Hirschfeld (2008) provide further insights into the potential effect of national policy and practices on classroom assessment. Brown and Hirschfeld's (2008) study of students' conceptions of assessment concluded that "students who maximise their conception of assessment as something that makes them personally accountable, who de-emphasise blaming the school or teacher; who treat assessment seriously, and who pay attention to it will achieve more." (p. 14) "These findings have implications for compulsory, large-scale testing programmes such as those in the US under the NCLB policy. They hypothesise, that if the assessment programme is presented to students as a school or teacher accountability mechanism then achievement is likely to go down; whereas, if the assessments are presented as measures of individual student learning, and students believe this, then scores are more likely to go up." (p13).

It is undeniable that assessment regimes have a powerful effect on school curricula. It is clearly demonstrated in New Zealand with the NCEA, where assessment of students' achievement for qualifications is very high stakes and therefore has an enormous impact on how and what is taught and assessed leading up to the examinations. This has also been demonstrated in countries where high stakes

assessment programmes have been introduced for measuring teacher and school performance, most starkly in the US state-wide testing programmes under the 'No Child Left Behind' legislation, and in England, with standardised assessment task at key stages of education.

Madaus, in Carr et al (2005) lists six principles of the power of testing (assessment) to influence the curriculum:

1. If the results of an examination are *perceived to be* important - it matters little whether or not this is true
2. The more a quantitative social indicator is used for social decision-making the more likely it will distort and corrupt the social process it is intended to monitor.
3. If important decisions are presumed to be linked to test results, then teachers will teach to the test.
4. In every setting where a high-stakes test operates, a tradition of post test/exam consequences develops which eventually de facto defines the curriculum
5. Teachers pay attention to the form of the question on a high-stakes test and adjust their instructions accordingly.
6. When test results are the sole or even partial arbiter of future educational or life choices, society tends to treat test results as the major goal of schooling. (p.36)

The pedagogical practices within classrooms promoted through the AToL, Literacy, and Numeracy professional learning programmes emphasise the sound use and interpretation of evidence - assessment information about students' progress and achievement/attitudes is collected continually and contributes to planning and modifying instructional programmes to best meet their particular needs. There is always a complex, multi-directional interrelationship among instruction, curriculum, and assessment at play within the classroom. We need to better understand how to structure and utilize those relationships to ideally enable (rather than disable) students' learning. As Hattie (2008) describes it, teachers need to be deliberative, instructional "activators" to have a substantial effect on students' learning (an average effect size of 0.60 for activator-type strategies), rather than simply facilitators which have minimal effect on improving students' learning (an average effect size of 0.17 for facilitator-type strategies).

National assessment regimes imposed in conjunction with new curricula oftentimes result in a conflicted situation where the potential positive effects of a new curriculum, new pedagogical approaches, or new approaches to assessment (formative assessment, assessment pedagogy, evidence-based instruction) become undermined. Carr et al., (2005) remind us that:

> "The development of a curriculum should encompass the simultaneous development of an assessment programme which fulfils the intention of the curriculum. In this way the curriculum and the assessment processes would enhance each other."

This admonition is instantiated in the research of Klinger et al. (2007). They explored what it was like 'walking in [the] shoes' of "successful" and "unsuccessful" senior secondary students in Ontario as they prepared for, take and then received feedback

from the OSSLT, a newly introduced test of literacy. Substantial differences were found among students in terms of their level of understanding of the requirements for OSSLT, the levels of "testwiseness" in terms of strategies they adopted to prepare for the test and to answer questions in the test, as well as their interpretation of what language arts, literacy, and the study of English actually meant.

Looking at assessment at different levels

What we have discussed so far necessarily bounces around from the early years of education all the way through tertiary education. But we know the differences among these levels are substantial. Thus, prior to drawing conclusions and making recommendations, we wanted to present a brief discussion of how these levels differ, structured around four basic questions that we feel capture the important developmental and instructional issues:

- What is assessment for?
- What does it look like?
- How does it relate to instruction and learning?
- What are the issues from the student perspective?

Early Primary (Years 0-3)

- *What is assessment for?* Assessment is used primarily, perhaps almost exclusively for purposes of student growth. Where issues with individual students arise, it might also involve some forms of more formal assessment for classification/diagnostic purposes. Running records in reading and assessments of numeracy are often administered, serving diagnostic and other purposes. Along with classroom purposes, some assessments are carried out to facilitate communication with parents.

- *What does it look like?* Assessment is often teacher-generated, although it might accompany curriculum/instructional materials that have been professionally produced. It can involve paper and pencil assessment, performance assessment, and a lot of "on-the-fly" teacher assessment. To the degree that it is paper and pencil, or even performance, it begins to introduce the concept of assessment to students. The assessment instrument is typically the teacher as she observes student behaviour, makes (often tentative) judgements, and then works from those judgements. Strong early primary teachers are often a marvel in terms of assessment.

- *How does it relate to instruction and learning?* Assessment in these years is quite closely tied to instruction and learning. There are many fundamental learning tasks that also basically serve as an assessment nexus during these years. Basic reading skills, math facts and strategies, and the beginning of reading comprehension and problem solving all occur during this time period. But, as mentioned, children are also learning, or not learning, how to constructively receive and make use of feedback, perhaps one of the most critical skills in developing lifelong learners. We wonder what are we doing in any kind of direct and conscious fashion to enhance these skills in our assessment practices?

- *What are the issues from the student perspective?* It would seem that assessment in these years is interwoven with instruction in complex ways. Assessment occurs on a fairly regular basis and may be formal or informal. Assessment is often informal, with the threads of assessment not coalescing in formal nexuses frequently. We more often see teachers watching over shoulders of students as they work at their desks, or listening in on a

conversation to see how well students are doing. From an instructional or development perspective on assessment and students' reactions to it, one very interesting question that arises concerns what we are teaching children about assessment and how to react to it at this point. E.g., do we spend too much time praising children and telling them how great they are as opposed to teaching them how to constructively receive and utilize feedback? Are we really are doing children a disservice here? There appears to be a paucity of research on assessment in these years, and given how important these years are as foundational in student growth, we really need to know much more. Note that we are not calling for more assessment, or even different assessment, but rather research into how assessment works in classrooms during this time in school, and how it affects children.

Upper Primary (Years 4-8)

- *What is assessment for?* As children move into the upper primary years, classroom assessment becomes a more regular part of instruction, and more formal approaches are often taken. Assessment is primarily used for formative purposes, and feedback more often includes corrections and cues for improving performance. Some level of formal, summative assessment takes place in many schools as well at this level. The asTTle, ARBs, PAT and STAR assessment tools are often given to get an idea of where students are in their development of literacy and numeracy skills. NEMP is administered at year 4 and year 8, but only affects about 1% of the students.

- *What does it look like?* A wide variety of forms are used here, ranging from homework assignments to teacher questions in class to assessments that look like formal tests. The idea of getting "marks" begins to become salient, and may colour how students receive and respond to feedback. Students also start working on projects and reports that are carried out over a longer period of time. These, too, are important assessment events, and have their own unique set of circumstances and concerns.

- *How does it relate to instruction and learning?* It would appear that there is a lot of variability here. The use of assessment for learning is becoming increasingly widespread as formative assessment strategies are adopted as a key component to evidence-based instructional practices. However, the question arises as to what forms these strategies take in classrooms and how effective they are (Poskitt & Taylor, 2007). Assessment becomes more prominent here along with the notion that students engage in activities that are assessment-related, but not traditionally conceived of as actually being assessment. For example, students start preparing for tests that they are given. Thus, the assessment 'thread' might be conceived of as preceding the assessment nexus, taking the test. This preparation might (or might not) include self-assessment, peer-assessment, and other forms of learning whether one is fully prepared for an assessment (e.g., help from parents or others). Taking the test becomes a focal aspect of this assessment process. Closely related to that is receiving feedback on that assessment. These two nexus points of the assessment process determine what the teacher and student learn

about the student's progress, and how they both react to it. The thread then extends in the forward direction (often) as students engage in activities that are subsequent to, and based upon, feedback from the nexus assessment event. The assessment is thus viewed as having threads (instruction, and preparation for the test) that precede two nexus events (taking the test, receiving the feedback), and then has threads that continue on from the events (student work, and classroom instruction). Distinct from the test/quiz type of assessment is the project or report. This can take quite a wide range of forms, but generally students are given something to work on that has a certain set of parameters, and that results in a product/performance, etc. This usually takes place over a somewhat extended period of time, and may involve working with others, working at home or another location outside the classroom. Often referred to as "assessment as learning" (or at least part of it), the learning/assessment/feedback cycle can be quite elaborate here, and quite variable from student to student. This is one of the least well-studied aspects of assessment, and perhaps represents another setting in which a national assessment strategy can productively call for and support research and development activities.

- *What are the issues from the student perspective?* Generally speaking, assessment at this level in New Zealand is still a low stakes, instructionally-oriented event for students. Contrast this with the corresponding years for the United States, where the high stakes No Child Left Behind mandate in grades 3-8 (years 4-9) dominates assessment in classrooms. In these classrooms, all formative assessment is geared toward performance on the end-of-year standardised tests. For students in these classrooms, assessment is a no-nonsense, purpose-driven activity that is fundamentally unrelated to student concerns except as they may be related to test performance (many schools have reward programmes for the school built into an overall school approach to getting high scores). The idea of learning in "assessment for learning" becomes replaced with the standardised test performance. Thus, formative assessment is "assessment for test performance." Returning to the New Zealand setting, there is probably great variability in how all of this works from one classroom to the next, and these differences should be of great importance to us. As Cowie (2002) and Poskitt and Taylor (2007) point out, the classroom assessment environment is a critical factor in how assessments are received and utilized by students. Are assessments viewed with positive anticipation by students as an opportunity to give their newly acquired achievements and abilities a 'fair go' with feedback coming to help them get better? Or are they viewed as another reminder of their many weaknesses, or simply something that is irrelevant to their lives? As mentioned earlier, the NEMP team has a good sense of what are the most appealing aspects of NEMP tasks. It might also be noted that students report liking NEMP tasks far more frequently than disliking them. The process is viewed quite favourably by students. Although there is some work in this area that we might call upon, a national assessment strategy that strongly emphasizes ongoing work to promote understanding and engendering positive classroom assessment environments would seem to be something that should have a very high priority.

Early Secondary Years 9-10

- *What is assessment for?* This is an interesting and important time with regard to assessment. It is basically the transition from a more generic, skills-oriented approach to instruction to one that is much more focused on specific subject matter learning. Much of assessment shifts over to a "marks-oriented" focus. Students prepare for assessments and work on projects, but often the receipt of a mark on a test or a project signals the end of consideration of that assessment. Students are often working on the next topics or lessons by the time that the marks are received. There is also some more summative and/or predictive/diagnostic assessment going on during this time with MIDYIS and BLIS type programmes. (There are also students who are taking NCEA exams during these years, but the numbers are not large at this level, and we address those issues in the senior secondary section below.)

- *What does it look like?* As instruction shifts from a more self-contained classroom mode to a subject-based mode, assessment shifts with it. It is more traditional, and very much more subject-oriented. It also shifts more into a summative mode in many classrooms, with assessment being primarily oriented toward receiving marks and moving on toward the next unit or lesson. While there is the opportunity for formative assessment practices to be used at these levels, assessment practices are often influenced by the practices that teachers apply in the senior secondary classes. Thus, there is a certain 'backwash' into the junior secondary years as a consequence of the senior assessment practices.

- *How does it relate to instruction and learning?* It may well be the case that assessment moves quite substantially from formative to summative assessment during these years. Assessments complete units of instruction, and there is little that is done instructionally based on a more formal assessment in terms of direct subsequent instruction and learning. Informal, formative assessment occurs in classes in terms of classroom interaction and questioning, but not nearly so much in terms of more formal assessment that have instructional consequences. We thus see more development in terms of threads that precede an assessment nexus (studying for a test, working on a project, taking notes in class, preparing a presentation), but perhaps fewer threads that follow the nexus of receiving a mark on an assessment. We need to ask ourselves, first, what is the evidence base that this conjecture is true, and second, is this optimal in terms of student learning?

- *What are the issues from the student perspective?* This shift from learning what to do next based on an assessment to preparing to take an assessment (or working on a project, report, etc.) has substantial consequence for student behaviour. Students prepare for assessments such as tests, and work on assignments and projects, basically in the absence of any formal mechanism for learning about how well they are doing/working, and what might be the next best steps. They are fundamentally left on their own here. This, too, should be of concern to us in a national assessment strategy. How do we teach children to be good self-regulators and self-assessors of their instructional progress? How do we step into the process in the early threads of assessment to advise and guide students on their efforts? What are the most effective

ways of accomplishing this? The ability to reflect on one's progress and make useful modifications in behaviour based upon that reflection is a critical lifelong learning skill.

Senior Secondary Years 11-13

- *What is assessment for?* The assessment game changes dramatically in years 11-13 as NCEA dominates the scene. The nature of assessment changes, the purpose changes, and student reaction to assessment changes. In years 11-13, there are basically two forms of assessment: NCEA, and assessment that helps students to prepare for NCEA. Many of the consequences here are well-documented in several major students on NCEA (Hipkins & Neill, 2003; Hipkins & Vaughan, 2002; Hipkins, Conner & Neill, 2005; Meyer et al., 2006; NZQA, 2007; and Weir et al., 2007). Assessment is for qualifications. It is primarily summative in nature, except for those assessments that are designed to prepare students to take the NCEA.

- *What does it look like?* The format of assessment is fairly clear here with regard to NCEA. It consists of open-ended examinations, the nature and construction of which are quite familiar to students and teachers through the availability of released forms of past NCEA examination papers. Of course, some assessments are internal and others external; there is some variability in the internal assessments from school to school, but moderation and the provision of exemplar examinations seek to keep that to a minimum.

- *How does it relate to instruction and learning?* NCEA clearly dominates instruction and learning here, both in terms of assessment, but also in terms of determining the curriculum. This is not necessarily to say that this is a bad thing, just that it exists. In terms of providing feedback to students from a formative perspective, it would be worthwhile to investigate how teachers use assessment over the course of the year to help students build on strengths and work on weaknesses.

- *What are the issues from the student perspective?* The issues are many from the student perspective, and to a degree, they are well-documented in the reports mentioned above. NCEA not only influences how students work toward the development and acquisition of knowledge, skills, and abilities, but also, it very much determines or influences *what* they study. Even within a subject area, students may opt out of or into trying to acquire certain credits depending upon how it fits in with their overall plan and desires. (e.g., the recent advice we heard of "never take a 14 point subject: too many eggs in one basket"). Recent shifts in how NCEA rewards students performing above a minimum level of performance (the 'achieve' standard) will influence how students look at the process, but just how and how much is not yet well-understood. What we can clearly take from the NCEA experience is an understanding that students are intentional human beings who will work in what they perceive to be their own best interests. How this might affect the introduction of other programmes for students should be carefully considered in a national assessment strategy. Thinking through the consequences of a

change in the national assessment strategy and framework from the perspective of the students is a critical consideration.

Looking Forward: What is optimal? What is practical? What needs to be known?

Given that we understand that students will react both affectively and cognitively to the assessment process, how can we constructively use this knowledge to develop assessment programmes that maximize and realize student potential? In a personal communication, the eminent reading researcher, Richard Anderson once said that he wanted reading assessment to consist of a student reading a passage, turning the paper over, and writing about what he or she had just read. When asked why he would want to conflate reading and writing, limit reading assessment, etc., he replied, "Because if we test it that way, teachers will teach it that way, and students will learn it that way, and that is what I want." In essence, Anderson was arguing that *our assessment system should be designed such that it results in the outcomes we want to see*. We think that is wise advice, and that part of trying to develop such a system is to take students' social, emotional, cognitive, and self-interests in responding to assessment to bear in planning an assessment system. So how would that play out in a real life setting?

How do we develop an assessment programme, and assessments within such a programme, that would result in kids and teachers engaged in the types of activities that we want to see? To begin, we have to have some idea of what we want to see, and what we don't want to see. For example, we do want to see kids eagerly engaged in learning because they enjoy it and think it is personally worthwhile. And we don't want to see them surfing their way through a path of least resistance to earn NCEA qualifications. Therefore, what we need to do is spend time thinking on the students' side of the issue whenever we propose something. This might entail looking at the research literature on the topic; it might involve speculating on what might happen; and it almost certainly would involve in engaging in research prior to the implementation of a programme in addition to continual monitoring of that programme once in place. It would also involve directly consulting students about what the assessment programme would mean to them and how they would respond to it. If we want to take the student voice on assessment practice into consideration, we have to ask them.

What do we take from all of this? Recommendations

We need to look 'inside the black box' – interpreting that black box to be either 'the classroom' or the 'learning process' (Williams, 2001). Nuthall and his colleagues have revealed that often what we think happens in the classroom, even from observations, may be misleading, and that a full understanding of students' learning must be student-focused. Putting students' learning and students' experiences under the microscope, (or rather video and audio recording) as Nuthall, Alton-Lee and others have done in classroom-based research will allow us far greater insights into the key elements of instructional, pedagogical and assessment practices for enhancing students' learning directly. 'Ecological' studies such as these will allow a greater understanding of the impact of assessment practices (threads and nexuses) on students in a much more direct way and within the complex classroom context in which instruction, pedagogy, and assessment are so closely intertwined (Sadler, 1998).

We have deliberately put recommendations for action throughout the report when and where we though they were appropriate, but we reiterate them in summary form here:

11. Students need to learn how to use assessment feedback from an early age.
12. We need to better understand how students react to and use assessment feedback.
13. We need to better understand and promote positive classroom assessment climates.
14. We need to better understand 'how classrooms work' from the perspective of students, and how assessment fits into that picture.
15. We need to find, understand, and communicate ways for students to have a voice in their learning and the assessment of their progress.
16. We need to understand how students currently work on assessments that are longer in duration and exist to a degree outside of the confines of the classroom. Where are they finding success and where do they need help?
17. We need to teach students how to monitor and self-regulate their independent learning efforts through better self-assessment.
18. We need to consider how students will react to major changes in curricular and assessment practice and policy. This should be a regular part of the consultation process. If we desire good outcomes from changes in policy and practice, we need to think those changes through from the perspective of the student.
19. We need to know how students experience 'tests' that are a regular part of classroom and school life such as, PATs and asTTle.
20. We need to better understand which types of assessment tasks students feel they are able to best demonstrate their level of understanding and skills.

It might be argued that the list of ten recommendations above can be boiled down to the simple phrase, "Think about the students." If we can agree on broad goals for our educational endeavour, it should not be too difficult to look at our assessment practices, and see if they align with the goals. Students are usually, working in their own best interests, more focused on the assessment criteria than the ultimate goals. They often do not distinguish between the two (often we do not as well). So, it is critical for us to see a tight alignment between our goals and our assessment practices. And the touchstone for that alignment has to (at least in part) be seen through the eyes of students.

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