

The barriers/enablers of effective assessment professional development and practices in New Zealand secondary schools

REVIEW PAPER

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ABSTRACT

Gaps have been identified in knowledge about the implementation of effective assessment practices aligned with enhancing learning in secondary schools. This small study investigated what three large New Zealand secondary schools who had been identified as having identifiable success in implementing effective assessment practices believed enabled and inhibited assessment change. External facilitators who had worked in these schools were also interviewed. The findings indicated that successfully shifting assessment within a large secondary school to focus on students and their learning involves sustained commitment from all concerned: the principal, teachers and the external facilitators. All of these “change agents” require in depth assessment knowledge and understanding, conceptions of assessment aligned with assessment for learning, and multiple, varied opportunities to learn about, investigate and improve student learning through the use of data to improve teaching. Changing teachers’ conceptions about teaching subjects rather than students, and assessment of learning, (qualifications and accountability) is especially difficult in large complex secondary schools. This small study confirmed that it is possible for large secondary schools to shift practice in an assessment for learning direction. However, due to the small scope of the study, further, fuller investigation is indicated.

INTRODUCTION

An evaluation of the 2005-2007 Assessment to Learn (AToL) projects commissioned by the Ministry of Education (MoE) and carried out in primary and secondary schools throughout New Zealand over the last 8 years reported that “AToL had met all of the key outcomes” (Ministry of Education, 2008, p. 1). The key programmes outcomes of AToL are to:

- improve student learning and achievement
 - shift teachers’ knowledge and assessment practice
 - develop coherence between assessment processes, practices and systems in classrooms and in schools so that they promote better learning, and
 - implement a culture of continuous school improvement.
- (Ministry of Education, 2008, p. 1)

However, the report stated “meaningful interpretations (of the data collected) were limited at a national level for secondary schools” (Ministry of Education, 2008, p. 11). The report concluded with a recommendation that “further investigation is needed about the more complex processes involved with formative assessment and related professional development in secondary schools” (Ministry of Education, 2008, p.26). Other literature regarding teacher professional learning about assessment in secondary schools also

indicates that changing teachers' practice in regard to assessment is complex and difficult (Gilmore, 2008) and that fewer than half of New Zealand secondary schools demonstrate effective assessment practices (ERO, 2007).

This paper addresses the likely enablers and inhibitors of improving assessment for learning in secondary schools. Literature about enablers and inhibitors of effective assessment for learning in secondary schools is briefly reviewed in order to contextualize a small exploratory study to investigate teachers and assessment professional development (pd) facilitators' views. The purpose of this brief investigation was to explore the possible enablers and inhibitors of implementing effective assessment practices through engaging in assessment professional development in secondary schools. Due to the short timeframe available, success case method (Brinkerhoff, 2002) was used to pinpoint specific enablers and inhibitors in schools where pd had been successful. This paper then discusses the likelihood of these factors being influential nationally, given the extant literature about pd and the nature of the New Zealand secondary school system.

EXISTING EVIDENCE ABOUT ENABLERS AND BARRIERS TO EFFECTIVE SECONDARY SCHOOL ASSESSMENT PRACTICE AND PROFESSIONAL DEVELOPMENT

While there is literature about assessment change and professional learning in early childhood centres, and primary/secondary schools (Gilmore, 2008; Timperley et al., 2007; Jones and Moreland, 2005; Mitchell and Cubey, 2003, for example) there is minimal existing evidence about what enables and inhibits assessment change in New Zealand secondary schools in particular. Leslie (2005) summarized discussions between two assessment professional development providers about their observations of what successful implementation of AToL in secondary schools involves. She listed what these providers believed were the essential components for assessment change and also included some "issues" that might be interpreted as barriers to change. However, no systematic evidence could be found to confirm these views.

Internationally, some evidence about using formative assessment in secondary classrooms to improve learning has been gathered (CERI, 2005; Ellis, 2005; Rawlins, 2007; for example). The OECD study (CERI, 2005) includes two New Zealand secondary school case studies (Looney and Poskitt, 2005). While these two cases do not specifically address the enablers and barriers for implementing effective assessment for learning practices and professional development, both indicate that a school focus on helping students achieve in a safe environment through specific learning feedback are important to making a difference. In one of these case study schools, significant resources for teacher release and teacher learning were provided to the twelve participating teachers. The changes made to their practice did lead to raised achievement. In the second, students were similarly provided with performance criteria and large amounts of feedback. There were early signs of improved achievement at this school as well. The principal and school leaders emphasised the role of leadership, professional research-based reading to increase teacher learning and the "school culture" as the

reasons for change to more effective assessment practices. However, these findings are unspecific and in neither of these case studies was school-wide change attempted.

The wider CERI study reported little systematic formative assessment implementation in secondary schools in eight OECD countries but indicated from the initiatives studied that school leaders are critical for initiating, sustaining and deepening changes in secondary school and teacher practice. The strategies listed as enabling effective assessment included: keeping the focus on teaching and learning; encouraging teachers to participate in innovative projects and to take risks; and building school-wide cultures of evaluation and creating opportunities for peer support and observation. The study also identified some barriers to change, including: class size; prioritising curriculum requirements; and changing attitudes about students' abilities. The reviews of research regarding formative assessment and its implementation in secondary schools in the French and German language literature focused more on enlarging the conception of formative assessment rather than how to implement it within large secondary schools (Koller, 2005; Allal & Lopez, 2005).

In contrast, Black and Wiliam (2005), reviewing the literature in English, summarized the features that characterized effective assessment for learning in secondary schools as:

- formative work involves new ways to enhance feedback between those taught and the teacher, ways which require new modes of pedagogy and significant changes in classroom practice;
- underlying the various approaches are assumptions about what makes for effective learning – in particular that students have to be actively involved;
- for assessment to function formatively, the results have to be used to adjust teaching and learning – so a significant aspect of any programme will be the ways in which teachers do this;
- the way in which assessment can affect the motivation and self esteem of students, and the benefits of engaging students in self-assessment, both deserve careful attention. (pp. 225-226)

Black and Wiliam specifically report on one project set up to shift the assessment practices of teachers in six secondary schools in the UK. From the literature and from this study they concluded “new ideas about teaching and learning can only be made to work in particular contexts if teachers are able to transform them and so create new practical knowledge relevant to their task” (2005, p. 227, italics added). To achieve this assessment change in secondary schools, they advise a focus on learning and learners as active participants in their own learning and engineering a learning environment to involve both teachers and students. They also raise two further issues of interest in the study reported in this paper: the first is the tensions, and possible synergies, between teachers' own assessments and the assessment results and methods required by society; the second, is the need to co-ordinate all of the issues addressed in such complex change in a comprehensive theoretical framework linking assessment in classrooms to issues of pedagogy and curriculum (2005, p. 234).

The first of these issues connects with the qualifications system secondary schools use. In New Zealand, the majority of state secondary schools use the National Certificate of Educational Achievement (NCEA). Some studies have been undertaken in New Zealand about the effects of NCEA on teachers' practices and on students learning, motivation and achievement (Hipkins, 2007; Meyer et al., 2007). One smaller study in a New Zealand girls' secondary school (Ellis, 2005) investigated the effect of the introduction of the National Certificate of Educational Achievement (NCEA) on both learning and teaching. As well as affecting subject choice, the students and teachers at this school reported features of the high stakes qualification system both enhancing and inhibiting assessment for learning. Rawlins (2007) investigated students' views of the formative potential of NCEA. He found that the philosophical and structural design of NCEA revealed a strong potential for it to serve a duality of both formative and summative purpose of assessment. However, teachers and students' conceptions of assessment and feedback were not aligned in the classrooms he studied, and worked against aligning assessment for learning with NCEA assessment.

The second of the issues raised by Black and Wiliam (2005), the lack of a comprehensive theoretical framework linking assessment in classrooms to issues of pedagogy and curriculum, is related to investigations undertaken in New Zealand by Brown (2004, 2006). He argues that changing teachers assessment practices through professional development should include addressing both their conceptions of assessment and their assessment literacy (Brown, 2008). He demonstrates that teachers all have existing conceptions about assessment and provides a model of four inter-correlated conceptions: assessment makes students accountable; assessment makes schools and teachers accountable; assessment is irrelevant; and, assessment improves teaching and learning. He provides a levels approach to what he terms "assessment literacy training" with five categories: none, some pre-service hours, in-service workshops or seminars, completed an undergraduate paper, and completed a postgraduate paper. His findings indicated that no statistically significant differences in conceptions of assessment mean scores were found across the five categories of assessment literacy training. While, as he states, it is possible that the amount and kinds of training are irrelevant to conceptions, there are a number of other explanations, including the lack of attention to teachers' belief systems, overly short periods of training, and poor quality training. Thus, the tensions between assessment for qualifications and assessment for learning, and the relationships between teachers' assessment knowledge and their conceptions of assessment may form part of the challenge of changing secondary school assessment practices.

A very helpful report about professional learning in assessment by Gilmore (2008), prepared for the National Assessment Strategy Review for the Ministry of Education, defines effective assessment, summarizes what makes professional learning effective and then investigates the literature about the connections between effective professional learning and effective assessment practice in New Zealand. The report concludes with what can be learnt from

the assessment professional learning opportunities that have been offered in New Zealand and suggests how to continue to build effective assessment practice through professional learning. This report includes the special challenges secondary schools face due to their role in qualifications assessment but beyond that, the report includes secondary school assessment change within the broader findings of the report. Enablers listed for effective assessment change in general included: strong principal leadership and distributed leadership and expertise in schools; opportunities for supportive professional discussions centred on student learning and achievement; an inquiry-focused evidence-based approach to teaching; and monitoring of the impact of any changes to practice (Gilmore, 2008, p. 13).

Gilmore also listed barriers that literature suggested might inhibit the full implementation of assessment pd programmes. These included: poor academic leadership; reluctant teachers; inhibited learning environments (where the teachers do not feel well supported); professional isolation of teachers; unreasonable expectations; excessive workloads; lack of confidence; inadequate resourcing; lack of good organizational structures; and involvement in multiple pd programmes (2008, p. 14).

RESEARCH DESIGN

With the findings of previous studies about developing effective assessment practice in secondary schools (above) and the Ministry of Education's request for an indication of what enables and inhibits such practice in secondary schools in mind, the following research questions guided this investigation:

1. What factors appear to enable the implementation of more effective assessment for learning practices in (large) secondary schools?
2. What factors seem to inhibit or limit successful implementation in these large schools?

Due to the very limited period of time available to carry out the investigation, success case method was used. Success case method (Brinkerhoff, 2003) involves identifying examples of effective and less than optimal implementation of an initiative (in this case effective assessment practices/professional development) and systematically finding out why the initiative has been successfully implemented (or not) through interviews supported by corroborating evidence.

Following ethical approval, the Ministry of Education in consultation with Assess to Learn (AToL) contractors, identified and invited four schools considered to be more successful than most of the secondary schools who had been involved in the AToL programme, and four facilitators who had worked with these schools, to participate. If they consented to participate, the schools and facilitators indicated this to the researcher who then sent a copy of the interview questions (see Appendix 1) and arranged a time for the interview. Three facilitators were interviewed and focus group interviews were held at three schools.

Participants

Table 1 below sets out a brief summary of the schools and participants in the focus group interviews.

School Code Name	Description	Number of students	Years since initiated AToL pd	Focus group participants
Hillview	Decile 6 Girls school Provincial city centre	1500 +	4+	Principal, Assessment lead teacher, 3 curriculum leaders
Parkview	Decile 8 Co-educational Large city suburban	2000+	1+	Principal, Assessment lead teacher, 3 curriculum leaders
Bayview	Decile 10 Co-educational Large city suburban	1800+	3+	Principal, 2 assessment lead teachers, 1 curriculum leader

Table 1 Summary of school participants

The three Assessment to Learn (AToL) facilitators interviewed had worked with the participating schools. Two of the schools had participated more or less intensively in the AToL pd programme over three or four years. The third began in the programme more recently but had already undertaken significant change towards a “learning culture”.

Data collection

The success case methodology used focus group interviews at the school sites, school documents and one to one interviews with the facilitators. The interviews were all audio-recorded and transcribed. Field notes were also taken during the focus groups and interviews. The interviews were audio recorded. Transcripts of the interviews and school documents were read and categorized in terms of what schools and facilitators believed were the indicators of effective assessment, as well as identifying enablers and barriers to effecting assessment change.

In order to assess the extent to which these findings resonated with the experiences of AToL and other school advisors involved in assessment professional development across New Zealand, the emerging findings were presented to a national meeting of assessment facilitators in Wellington on 16th July. Resonance in this sense means the extent to which the findings of a qualitative study, often with a limited sample such was the case in this project, fits (or does not fit) within the experience of a wider group of informed people (Hill, 2000). Through a series of short group activities and responses, the emerging categories were shared with a group of 16 secondary assessment facilitators and the extent to which the emerging findings resonated with their experience of effecting change in large secondary schools was noted and informed the questioning in the remaining interviews.

Analysis

Due to the short time frame and limit of a maximum of 20 pages for this report, full case studies were not constructed. Instead, the researcher read across the case studies looking for information about what the schools and facilitators considered to be effective assessment for learning practices in these schools, what appeared to have enabled these practices to become part of the culture in these large schools and what might inhibit such practices.

FINDINGS

Effective assessment for learning practices

In order to make decisions about enablers and barriers to implementing effective assessment practices in secondary schools, it was essential to understand what these successful schools understood as effective assessment practices and the extent to which the principals' and teachers' ideas about effective assessment aligned with the pd facilitators' views and those found in the literature. Table 2 sets out the effective assessment for learning practices described by both the schools and the AToL facilitators.

All of these indicators were mentioned by all of the facilitators interviewed and all were found within each of the focus group interview transcripts. Thus there was clear agreement across the schools and the facilitators about what they were trying to achieve. The emphasis, however, differed by respondent. Some emphasized teachers' and principals' understanding, and the use of assessment to give feedback, analyse data and/or plan the next teaching steps. One facilitator expressed this as '*what do they do and how do they use assessment data to take kids from where they are at to somewhere else?*'

Others focused on gaining clarity about the learning intentions/success criteria. As one facilitator put it:

In the classroom I suppose (using assessment) effectively ...would be about being clear about what they want the kids to learn. I think that's a major thing for teachers. They think they are clear but even the best teachers, when you talk to their kids, they are not clear.

Still others believed the emphasis should be on student involvement and co-construction of the learning/learning intentions as well as self and peer assessment. For example, as one teacher at Hillview explained

what inspired people was that it was about the student learning and it was that whole challenge of 'well how do I know what they do know?' and 'how do they know what they do know?' and 'how do we together decide what needs to happen next?' so that they can move from there to the next stage.

One facilitator described the

overriding factor is students involvement in their learning... the students becoming self regulated, self actualised learners who are able to make decisions themselves about their learning, who are knowing how they learn, what's best for them, what they need to do to improve and who have access and are confident in having access to the resources.

Indicators schools and facilitators view as effective assessment for

learning
• students are able to talk about their own learning
• students can explain learning progressions and where they are within those (and where they need to go next)
• students can explain their learning goals/intentions in the first person (I am able to..., I am learning to..., I need to learn to..., etc)
• teachers are clear about what the learning intentions, progressions and criteria by which to judge success are for their students
• teachers can differentiate for student learning
• principals, senior staff and teachers (right across the school) can and do use data as evidence for decision making about teaching and learning

TABLE 2 Schools' and facilitators' views of effective assessment for learning

Due to the fact that all three schools had been involved in the AToL pd programme, each had participated in measuring their success against these effective assessment indicators. Methods used to assess the extent to which the factors listed in Table 2 were present across the school over time were reported as classroom observations by both AToL facilitators, assessment lead teachers and peers (some of which were videoed), interviews with teachers about the observed practices, student interviews about the extent to which they were involved in learning and assessment, student engagement surveys, and measures of student achievement and behaviour.

Factors that enabled effective assessment and professional development in these “successful” secondary school cases

The factors that appeared to enable secondary teachers and their students to engage in the effective assessment for learning practices described above are set out in Table 3. The data on enablers (and inhibitors) has been organized in categories for ease of understanding.

Enablers of effective assessment for learning practices in large secondary schools
Principal as “conductor” of change <ul style="list-style-type: none"> • principal assessment literate and well familiar with assessment for learning practices • principal “conducts the orchestra” of change within the school context by: <ul style="list-style-type: none"> - aligning job descriptions and appraisal with assessment for learning - providing intellectual stimulation and direction through modeling - using school management and organizational systems aligned with assessment for learning • principal provides resources, especially time, for teacher learning
Senior staff/management team <ul style="list-style-type: none"> • assessment for learning program manager established with time and responsibility to organize pd program across school • senior staff/management team has explicit knowledge of assessment for learning
Alignment with assessment for qualifications <ul style="list-style-type: none"> • NCEA assessors use assessment for learning practices by (for example): <ul style="list-style-type: none"> - avoiding over assessment - using NCEA exemplars as assessment for learning tools across the curriculum • pd about assessment for learning held at suitable times of the year (ie not term 4)
Opportunities and time for teacher learning about assessment for learning <ul style="list-style-type: none"> • school provides time to meet, talk, read, try things out, share results, ask questions etc • collegial teacher inquiry foregrounded • school climate supportive of responsible “risk taking” • school encourages aligned teacher learning outside school pd programmes

Embedding assessment for learning
<ul style="list-style-type: none"> •across schools <ul style="list-style-type: none"> - traction gained by having whole school AND across school collegial inquiry - school-wide alignment of assessment for learning messages/understanding - HODs understand and are committed to assessment for learning - sustained time (at least four years) and reasons to engage assessment pd - assessment for learning practices implemented for existing school assessment purposes (eg., preparing for NCEA standards, grouping students, etc) •between schools <ul style="list-style-type: none"> - city-wide initiatives to identify needs and address them - hold AToL network days that secondary school teachers can attend
External facilitation
<ul style="list-style-type: none"> • tailored to meet the needs of each school • assessment for learning literate facilitators • sustained and sufficient engagement with each school

Table 3 Factors that enabled implementation of effective assessment for learning

Principal as “conductor” of change

One principal when asked about his role in facilitating assessment change remarked that he thought his role was like the conductor of an orchestra. He needed to know and understand what assessment for learning is and how it is used to improve learning and achievement. He explained that his role was to work to ensure the school was organized, resourced and focused to ensure effective assessment practices result. All three principals demonstrated throughout the interviews that they were not simply ‘enablers’ but that they had a thorough knowledge of assessment for learning. In short, these principals are assessment literate.

One principal demonstrated her understanding of the shift that needed to happen in her school when she told how one staff member had changed her language in order to assist in changing assessment practices.

I remember the first thing (was) hearing this word formative and each time I asked I kept thinking – you know compared to what I knew from ATOL already - that that was one of the shifts that we needed to make and I think the staff now, like Gail, I love the way she won’t talk about assessment to learn she says ‘assess for learning’. You know that it’s shifted to there and that’s really satisfying.

As this quotation indicates, conducting the orchestra of change is about making a discursive shift from formative assessment meaning practices for credits to a different way of thinking about assessment as assessment for learning.

When asked about the need for the principal of a large secondary school to be assessment literate and not just supportive of changing assessment practice, the teacher at one of the schools gained the agreement of her peers when she explained that it was essential that the principal had an excellent grasp of assessment for learning. She said

If (the principal) did not have a clear understanding of assessment for learning and what progress towards it looked like in our school, she wouldn’t know if we were really doing it or not. She couldn’t really hold us accountable.

Other ways that principals conducted assessment change in these success cases related to the way job descriptions, appraisal and other school

management systems were structured and used. By aligning appraisal, for example, with the principles of effective assessment as described in Table 2, all three principals had placed value on the changes to assessment they were seeking.

As listed in Table 3, it is also necessary that the principal provide the resources necessary for the changes to be implemented. As well as funding for release time, conference attendance, reading matter and further study, these three principals all described how time had been set aside to enable professional development in assessment to happen every week. In two schools, three quarters of an hour before school one day a week was allocated for all staff to participate in meetings to enable teacher learning. The principal in the third commented that for the last four years the school had held professional development after school on the same day each week. They had now decided, however, to shift this to one morning a week to improve staff attendance and engagement.

In summary, the principal's role was not just seen as important but rather as critical for the successful implementation of effective assessment practices. The need to spread assessment for learning practices school-wide and sustain them in the face of a range of challenges, described elsewhere in this report as traction and embedded-ness, appears to demand the full involvement of the principal, not just their support.

Senior staff/management team

As well as having a principal engaged in the process of change, facilitators all stated that the senior management team and senior staff across the school needed to understand and be able to implement assessment for learning practices themselves. Within each of the success cases, the senior staff were asked to explain what they believed effective assessment for learning practices were and how they implemented them. In two schools the explanations of the senior staff in the focus group closely aligned with the factors listed in Table 2.

In the third there was an obvious commitment to learning and operating the school as a learning community, however, the focus around assessment for learning was a little less clear. The term "formative assessment" was used most commonly in the focus group interview and probing revealed that practice assessments for NCEA credits were seen as formative assessment. It appeared that these teachers had all had extensive opportunities, including overseas conference attendance, for professional development relating to improving student learning and the school's documentation also focused strongly on this aspect.

Organizationally it is really important to have a supportive senior staff member involved with the pd. In all three schools, the AToL facilitators had a senior staff member, usually a deputy principal, who was the main contact person, set up the assessment pd within the school and provided internal continuity within the school. In all three schools this person worked with a senior team, including the principal in two cases, to ensure the programme gained traction

across the school. For example, these “programme managers” as one facilitator called them,

set up when you're going to visit, organize observation and feedback time, release time, ... (they are the) conduit, a key for relationship building... that person provides all your data, they chase around the heads of Faculty. They are absolutely vital, they collate stuff. So that's their kind of role.

Alignment with assessment for qualifications

While assessment for qualifications was also mentioned as an inhibitor, these successful schools all provided examples of how they had used elements of the NCEA to assist teachers to shift their practices to focus more on student's learning. For example, one school noticed that teachers in different classes had been giving different grades for very similar pieces of work and realised that they need to benchmark their assessment. They explained how they used NCEA exemplars in the senior (Year 11-13) and junior (Year 9-10) school.

We unpacked the NCEA criteria ... against the new curriculum. I think it improved our understanding across the department of what the actual standard we specifically had with writing for instance – what the standard of writing was we expected.

Teachers also said that having a focus on assessment for learning had meant that they had begun to reduce the amount of assessment they undertook and involve the students more in it.

We have tried to strip the formalized assessments back to more informal and peer assessment because we seemed to be getting bogged down with coverage rather than depth. ... We have pruned right back so that teachers feel a little more liberated... rather than feeling pressurized at junior school.

All participants agreed that trying to hold pd in term 4 of the school year, before and while external assessment was in progress was just not possible. It appears this is a time to avoid pd timing in the secondary school year.

Opportunities for teacher learning about assessment for learning

All of these schools had provided significant and extended opportunities for all their teachers to learn. All three principals had made large financial and time resources available for this purpose. At each of these schools there was a systematic approach to provide teacher learning. All had whole school assessment pd, all had departmental/faculty assessment pd and all had professional learning groups/communities organized across departments/faculties.

We had some full staff professional development on the ATOL principles but more than that we had small groups in different areas – some departmental areas but some cross curricula groups working together working really quite intensively in terms of some reading that they did about the principles and then some working together and they thought well we'll try this this week and implementing it and then coming back and you know examining what had happened and whether what was effective and where they would go next and we probably did more of that than anything else for the three years of the contract. And that is still going on. That is an ongoing process with some small groups still working with those ideas.

All of these schools provided a weekly timetabled slot, before or after school, for teachers to meet and focus on pd. In two schools, teacher inquiry about changing their own assessment practices predominated. In the third the focus

was less clear. But in all, the interviewees made it clear that these opportunities had led to significant change.

(T)he aim was that the whole staff is familiar with the principles behind it and working with it in small ways and the other groups working more intensively and they then came back and did some sessions with the whole staff on what they had been doing and what worked for them and we will continue to do that I believe as time goes on so that we can keep infusing that through.

(T)he people that were involved in AToL, and really interested in it, weren't necessarily from the same curriculum area and they overlapped that work into the critical enquiry model which (principal) had set up for professional development for all staff right across, doing professional readings and feeding back to each other and actually looking for practical situations and modelling it in the classroom. So that sort of psyche meant that the ATOL project was just the ideal, you know, meat really for them to get their teeth into and use it to professionally develop themselves but also very much the learning of their students.

Although these schools were very different in many ways, the school culture and climate in each of them enabled and promoted risk taking within the bounds of these learning initiatives. For example, the critical inquiry groups in one set up the expectation that teachers would try things out and report back on how they went. As well, in all three, teachers were supported to undertake further qualifications or attend pd and conferences aligned with the pd directions of the school.

Embedding assessment for learning

Because AToL was strongly aligned to these schools' goals, charters and philosophies and due to having frequent, systematic opportunities for teachers to learn and inquire into their own practice, these schools appear to have "gained traction" implementing a learning-centred focus. Gaining traction appeared to be a significant enabling factor.

Getting traction is really difficult. I guess its not (just) school size its getting traction when you have got 100 teachers.

In such large schools this is often the make or break factor for success. In these very large schools factors such as staff turnover, class timetables and student issues tend to dominate the life of the school.

We are talking about a staff of around about a 100 teachers and no matter how you did it in three days with two people you could really only support ... maybe at the most 25 teachers between the two of you.

Having a clear aligned focus on learning into which the AToL pd programme was incorporated appears to have ensured that assessment for learning practices can spread and grow. While none of the schools or the facilitators interviewed believed assessment for learning was uniformly implemented across any of these schools, alignment seemed to provide an important climate for "idea travel" and success.

Time was another important factor. All of these schools had spent several years changing to a more student-centred learning focus. All allocated extra time for teacher learning and progress was being monitored over time as well. Gaining traction and embedding assessment for learning into teachers' practices takes time, effort and a systematic approach, especially in large organizations such as these schools. As one teacher interviewed put it

Its about changing habits. If we don't pay enough attention, even the best of us slip back into our old habits, especially when the pressure goes on.

The facilitators and some of the teachers also mentioned positive effects on sustaining change when schools meet up in local and regional meetings. Sharing ideas between schools helps to spread the ideas about practice between schools. In some regions AToL network days incorporate both primary and secondary teachers and these appeared to provide support for the lead teachers from one of the schools.

External facilitation

In all the success cases studied here, the external facilitation was tailored to meet the needs of the school. The facilitators all talked about attempting to use what they referred to as a “cascade” model with secondary schools. Simply expressed, this is where the facilitator works with a small group of teachers within the school to observe and change their assessment practices. They also receive some training as in school facilitators. These teachers then act as in-school facilitators and work with other teachers on a school-wide basis to implement the pd. All three facilitators (and all three schools) believed this model had not worked well in large secondary schools. In contrast, what appeared to have worked for these three very large secondary schools was having assessment literate and experienced facilitators who worked flexibly with the principal and senior management team to meet the needs of the school. In all three schools, and in two in particular, the external facilitators had spent time listening to where the school was at in terms of its development towards assessment for learning and then tailoring the approach to fit the school.

I have to commend the people in ATOL if you are talking about facilitators because they came to us and their brief was they had to do it across the school and I said to them we want the contract but we can't do it that way because we have been committed to the staff buying into different models. I think we have had far more 'buy in' than if you had something (set by the AToL programme) from the outset.

As mentioned above, the facilitators need a deep knowledge and understanding of assessment, assessment that supports learning, subject matter and pedagogy. One principal commented

we can be experts in house but we actually need someone to come in and really look at us because I think there is a huge amount of expertise in the school but we can't get complacent about that you know and so that's the role.

The principals and lead teachers also commented that the external facilitators played an important role in advising and debriefing, particularly when the principal or lead teacher struck a tough patch.

(T)here is another role which probably people in this room wouldn't even necessarily be aware of but one I found hugely helpful was that initially it was quite hard work and they were incredible for helping me debrief.

Furthermore, the facilitators' sustained and sufficient engagement with each school appeared necessary to effect change. In one school, the AToL contract had ended, the lead teachers still attended the AToL network days. Another school had engaged an external “provocateur” to continue to assist the school to improve. The third had contracted privately with the facilitators to extend the assessment for learning pd. Thus, a sustained engagement

with competent and experienced external facilitators does appear necessary to enable assessment change.

Factors reported as inhibiting the implementation of effective assessment for learning

Facilitators and teachers at each of the schools also talked about barriers to implementing effective assessment for learning practices and professional development. Clearly, where the enablers listed above are not present, implementing such practices will be inhibited. However, interviewees specifically noted particular barriers to change. These factors are summarised in Table 4.

Assessment for learning change inhibitors
Assessment literacy
<ul style="list-style-type: none"> • facilitators may lack assessment knowledge and understanding • principals may lack assessment knowledge and understanding
Conceptions of assessment, learning and teaching
<ul style="list-style-type: none"> • principal, senior staff and/or teachers may hold accountability and qualification purposes for assessment as paramount • school management systems, school structures, can privilege accountability purposes over data analysis to inform teaching and learning
Size of school overwhelms implementation of assessment for learning implementation
<ul style="list-style-type: none"> • staff turnover impedes imbedding of assessment for learning practices • amount of release time necessary rises with number of staff
School culture and practice
<ul style="list-style-type: none"> • appraisal and employment practices not aligned with assessment for learning philosophy • principal not engaged/conducting with change process • focus on teaching subjects rather than teaching students • qualifications assessments dominate and permeate particular assessment practices • departments work in silos with little/no school-wide philosophy or cross fertilization of ideas
Lack of time for teacher learning
<ul style="list-style-type: none"> • timetable issues • length and number of classes in a day/week • contact time versus facilitator availability • term 4 is for NCEA/qualifications
Professional development model used
<ul style="list-style-type: none"> • lack of traction and embedding of ideas school-wide • rate of change too slow
Number and location of secondary schools
<ul style="list-style-type: none"> • opportunities for sharing between schools inhibited by distance between them
Lack of alignment of assessment purposes and policy
<ul style="list-style-type: none"> • between NCEA and curriculum at the national level • between NCEA assessment practices embedded in schools and assessment for learning
Assessment tools across the curriculum at Years 9 and 10
<ul style="list-style-type: none"> • few nationally normed and/or standardized tools available apart from asTTle and ARBs • assessment literacy required to adapt NCEA, NEMP for year 9 and 10 use

Table 4 Assessment for learning change barriers

Assessment literacy

One obvious barrier is where the principal, lead teachers or facilitator does not have the requisite assessment knowledge and understandings. To be successful, schools need to have knowledgeable leaders supported by knowledgeable external facilitators. In the one school where the focus group

acknowledged that they were still working to change assessment to a more student-centre focus, the teachers repeatedly used the term “formative” assessment to describe the shift they wanted to make. On further probing, however, it appeared that this term was understood by the lead assessment team as practice assessments held frequently to judge progress towards NCEA standards and achievement targets.

Beliefs about assessment, learning and teaching

Closely aligned to assessment literacy are the beliefs held by all involved in the process from the external facilitators, to principals, senior staff, teachers, students and their parents and families. Assessment beliefs are powerful shapers of what is possible in the schooling context. Where teachers, for example, believe that assessment is mainly for qualifications, this belief will drive their practices. One teacher gave an example of this when she described talking with teachers from other schools.

When I talked to other teachers outside of our school they tend to think that assessment, good effective assessment practices are reflected in your NCEA results and that if only you can get the magic exemplar material and the magic potion by which you get your kids trained up for the moment when they step up into that assessment, particularly external assessments I'm talking about, that that's what they want.

Students, too, have certain beliefs about assessment that might need changing. One teacher stated

when we started talking 2004, 2005 – it was around the kids credit counting and not really putting their head up and saying 'I can go for these grades, the quality of grades'

and another described

how one student is finding it very difficult because she is a very talented young lady and she just doesn't seem to, she doesn't seem to want to do – to excel, she just wants to be ordinary and I need to work out strategies for her but we are certainly – we are looking at encouraging her to become more of an independent learner.

The evidence gathered from these successful schools demonstrated that much of the effort they expended was about changing “hearts and minds” not just teaching new strategies. This was very much a team effort in these three schools. It would be an uphill battle in such large schools if the team members were not all pulling in the same direction.

Size of school

The sheer size and complexity of these large organizations is, in itself, an inhibiting factor. As stated earlier, staff turnover is a constant challenge. The complex timetable means it can be difficult to release teachers when necessary for essential change tasks such as observing practice or meeting in professional learning groups. Four years into their assessment change project, a working party had been established in one of the schools studied, to investigate how changes to the timetable, could enable better assessment, teaching and learning within the school.

In each of the schools studied here, significant effort and resources had been required to get things moving towards change. The principal and the senior

staff have pivotal roles in both of these arenas. Without both informed effort and funding, change seems unlikely.

School culture and practices

Another inhibiting factor can be the culture of the school. Teachers talked about how safe it was to try new things, to have ideas fail and to make mistakes. At all three schools experimentation was underway. Teachers indicated that they would not have taken the risks to change if they had not felt safe to do so. As one teacher explained

it's not a sort of threatening (thing). You know tick box kind of, type of (thing). You know, (not) "I'm coming in to check on you sort of thing. (The) staff were sort of sitting saying 'this didn't work'; and then we would talk about why they thought it didn't work but I felt really good about that because I thought they clearly don't feel like we are sitting with little black books, you know, ticking this off.

Another teacher at the same school added

I mean that was our goal, was creating a climate. We are saying we want our girls to 'risk-take' but actually until our teachers experience it, we haven't always been the most 'risk-taking', the best 'risk-takers' you know.

This culture stems from the principal and runs throughout the school, through appraisal systems, through relationships, through communications with students and to parents and the community.

Other embedded school factors that teachers and facilitators mentioned as inhibiting the kind of change they were trying to achieve were focusing on teaching subjects, not students, and working in departments or faculties rather than within a unifying school-wide approach. All three principals emphasized how hard this is in large complex institutions but believed changing this customary practice was essential to their success.

Lack of time for teacher learning

Time for teacher learning was emphasized as a barrier that needed to be overcome to change practice. One principal emphasized this with a message she asked be passed on directly to the Ministry of Education for more time for teachers to learn. She went on

What we are talking about mostly today is stuff staff have done on top of what is assumed they would do. Our staff need another 5 hours for their professional learning every week. They have got 5 hours for non contact they need another 5 hours. You know they do need that much for the reading you know. It's not just 'oldies' like me, I mean there are people who are younger and you do hear them saying, 'enough, enough at the moment, enough thankyou, enough!

Such large shifts in teaching habits and student beliefs and involvement take time and energy. Although these schools had been successful in shifting assessment practices, they had done this due, in part, to the time they had devoted to it.

Professional development model used

Closely related to time for teacher learning, is having a pd model that fits the school. One of the three schools had started out with a "cascade" model (described earlier) and found it had not worked. In their words, they had replaced it with a "multiple waterfalls model", where the number of ways in which

staff and students were involved in learning about and experimenting with what improves learning had been greatly increased in number, frequency and variety. Thus it appears that assessment change is inhibited when the rate of change is too slow to gain traction and embed ideas deeply.

Number and location of secondary schools

Some of the teachers and both facilitators in one of the two cities cited the lack of interaction between schools about changing their assessment practices as an inhibitor. The facilitators said this was due to the way large secondary schools were spread across regions. In comparison, primary schools met regularly and found the opportunity to share across school sites supported the change process. Furthermore, in the smaller city where interviews took place, it appeared that there were cross school groups meeting to share practices for enhancing learning that aligned well with assessment for learning. Attending these groups as well as the networking meetings held by the AToL facilitators appeared to facilitate change. Therefore, finding ways to increase cross-school sharing for large secondary schools regionally might be a productive strategy.

Lack of alignment of assessment purposes and policy

This was most obviously an inhibitor with regard to assessment for qualifications. Although all three participating schools gave examples of ways that they had moved to align assessment for learning with NCEA assessment, there are still tensions for all concerned due to the qualifications assessment purposes in secondary schools. Talking about what teachers want for NCEA, one teacher explained that most secondary school teachers

want exemplar material up online, that they can use then as a kind of like a template that they can then get their kids to copy and that that will give them success. And I actually think that what we are talking about is something that is completely different to that, that is about changing teaching practices, its about changing your expectations, its about changing how you deal with a whole bunch of other stuff that allows that assessment to happen.

Another stated that she thought some secondary teachers had still not yet come to terms with the NCEA changes.

There is a deep, not in this school but I think there is a deep kind of gnawing wanting to be back where you could have bursary and school cert and you could send your kids out in November and they could be able to sit the test and you didn't have to worry about them any more and it wasn't your, the assessment wasn't something that was involved with your teaching it was something that was done outside and that was it.

Furthermore, some suggested that the lack of alignment between the purposes of assessment in the new curriculum and from the New Zealand Qualifications Authority (NZQA) via NCEA was partly to blame for this barrier to changing teachers' thinking.

Assessment tools not available across the curriculum at Years 9 and 10

Finally, discussions with these teachers and facilitators suggested that not having normed assessment tools that they could use across the curriculum in Years 9 and 10 was an added barrier. Almost all of the teachers interviewed had experimented first with changing their assessment practice in Years 9

and 10 but had found it difficult to locate valid and reliable assessment tools for this level. AsTTle and the ARBs were used extensively but in the social sciences, the arts and technology teachers were constructing their own assessment instruments. A few had experimented with the Year 8 NEMP tasks and were generally very positive about these. However, given the demand for exemplar materials cited above, the assessment literacy levels of secondary school teachers and the influence downwards of NCEA, providing new tools across the curriculum at the junior secondary level is worth considering.

DISCUSSION AND CONCLUSIONS

The findings presented above are briefly considered here in relation to the international and national research literature relating to changing assessment practices in secondary schools summarized earlier in this paper. There is a great deal of alignment between the findings of earlier studies and the one reported here. Principals, teachers and facilitators reported effective assessment for learning practices closely aligned to those listed by Black and William (2005) and conceptions about assessment most closely aligned to Brown's conception of assessment improves learning and teaching. However, in these large well performing secondary schools, two other categories were also prominent: assessment makes students accountable; assessment makes schools and teachers accountable. No indications were found of Brown's fourth category (assessment is irrelevant) in this study.

The findings in this study indicated that the three success cases investigated had been successful in implementing assessment for learning. Due to the constraints of the investigation, however, was not possible to assess the extent to which each had been successful in detail however. Therefore, the conclusions reached below should be read as indicative and worthy of further fuller investigation.

The factors that appeared to enable implementation of assessment for learning practices across these large secondary schools (listed in Table 3) are much the same as those listed in Timperley et al. (2007) and Gilmore (2008). Importantly though, in large secondary schools, the role of the principal and senior staff appears to be magnified. These schools are very large, complex institutions and require sustained, informed teacher learning and inquiry into student learning in relation to assessment and teaching in a supportive, collegial fashion. Gaining traction and embedding changes in large, busy, qualifications-dominated institutions requires all the enablers listed working together over a sustained period. Some suggested 3-4 years was necessary but for others up to 6 years was suggested. This is much longer than is presently the case for ATOL pd programmes.

Inhibitors to assessment for learning practices and successful pd suggested by Gilmore (2008) were confirmed by the findings of this study. But in secondary schools, these inhibitors are compounded by the qualifications purposes of assessment and the subject orientation of secondary teachers and school structure. As Rawlins points out, NCEA philosophy is not inconsistent with assessment for learning principles and practices. The

findings of the study reported here suggest that more alignment of NCEA with the new curriculum and assessment pd initiatives at the national policy level may be helpful in changing assessment in secondary schools nationally more quickly.

Each of the schools in this study emphasized the need to teach students not subjects and did not underestimate the difficulty of shifting teachers, students, and the community's views about this. As explained above, assessment for learning pd was an important part, but only a part none the less, of a broader project for change within each of these schools. The facilitators and the ATOL programme had been adapted into this broader change agenda at each of these schools. Using a set PD model had not been found helpful in effecting the breadth and depth of change required to shift assessment practice to a learner-centred approach.

Unfortunately, due the 20-page requirement for this review paper, it has not been possible to provide success stories that were recorded in the interviews. Nor has been possible to do a detailed fine-grained analysis of the data gathered. There is a great deal of detail in the transcripts and further detailed analysis may reveal a finer grained understanding of secondary teachers' understanding of assessment in these schools, what enabled change to occur and the inhibitors of change. For example, a discursive analysis of the assessment language used, meanings for it elicited and practices resulting from these meanings might explain to some extent, differences between the speed of change in the three schools.

Further investigation of processes for effecting reasonably rapid, well embedded assessment change in large secondary schools would add much to the school improvement and assessment literature. Data from students and their families, and Ministry of Education policy and qualifications authority officials might also expand our understandings about how to speed up and deepen effective assessment in these large schools.

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