Review of Queensland Literacy and Numeracy Testing Programs, 1995-99

Issues Paper

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Executive Summary

The overall purposes of the Queensland School Curriculum Council Literacy and Numeracy Testing Programs are to account for, and to contribute to the improvement of, student learning in literacy and numeracy.

This *Issues Paper* represents the first of two phases of a review to:
- examine the conduct of State-based literacy and numeracy testing in Queensland over the five year period 1995-99; and
- to facilitate planning for future literacy and numeracy testing.

The second phase will be guided by the issues raised in this paper.

To fulfil the purpose of the Issues Paper the following methodology was employed:
- undertaking a literature review on the latest developments in literacy and numeracy testing.
- undertaking a scan of systemic/State-based literacy and numeracy testing in Australia.
- synthesising the findings of all evaluations and reviews prepared on the conduct of State-based literacy and numeracy testing in Queensland 1995-99.
- examining major papers related to the conduct of State-based literacy and numeracy testing in Queensland 1995-99, including reports of Council forums and Council submissions; and
- eliciting, synthesising and addressing the major issues from the above.

The following eight issues identified in this paper provide a summary of current and future directions for testing programs in Queensland.

Defining literacy and numeracy
While the Queensland Years 3, 5 and 7 Testing Program has undoubtedly been a catalyst in establishing literacy and numeracy as educational priorities, there needs to be continuing clear articulation of the meanings assigned to literacy and numeracy and of the objective purpose of the Queensland Years 3, 5 and 7 Testing Program, namely, to test *some* aspects of literacy and numeracy.

National literacy and numeracy benchmarks
The benchmarks, in representing only the essential elements of literacy and numeracy, describe agreed minimum acceptable standards for literacy and numeracy for a particular year level. Concerns include problems of validity and reliability in comparing results with other States due to reasons such as the differences between States of the time of testing and differences in ages, time at school, and year levels of students. The 1999 Queensland Years 3, 5 and 7 Testing Program included some common items to allow validation of State comparisons obtained through the use of teacher and expert judgment – known as the National Collaborative Equating Model. Moreover, an attempt was made to ensure that there were sufficient items thought to be around the benchmark level so that the accuracy of identifying the cut-score to represent the benchmark standard could be increased. In addition to those items, the tests contained items covering a broader range of performance "developed specifically for Queensland students, based on Queensland curriculum and reviewed by panels of Queensland teachers"[1].

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[1] QSCC (1999), *1999 Queensland Years 3, 5 and 7 Testing Program Information for Schools.*

Differentiating between testing and assessment

The emerging issue relates to whether or not the focus should remain on the provision of a test or whether or not the focus should be broadened to refer to an assessment program. While there are criticisms associated with testing, it needs to be seen as a sub-set of assessment. As such, the Queensland Years 3, 5 and 7 Testing Program provides information about student learning to complement the information gained about students using a diverse range of other assessment techniques. Moves to include a wider range of assessment techniques involving teachers Statewide would be confronted with teacher workload implications. Some other States and Territories (e.g. Western Australia and the Australian Capital Territory) seem to have managed to address this issue successfully.

Sample and census testing

The central question relating to the sample versus census testing debate relates to the question - for whom is the testing designed? Sampling of students does not provide information either for individual students or for their parents and caregivers, and, therefore, has limitations for informing teachers about their students and for comprehensively informing schools to assist them in their decision-making processes relating to school program planning and improvement. Sample testing, however, is less intrusive and non-threatening to schools and students, especially in the early years of schooling. Census testing allows schools to 'monitor and track' students through critical stages of their literacy and numeracy development.

State-based testing in literacy and numeracy: The benefits and the concerns

The potential benefits of State-based census testing are considerable for students, their parents and caregivers, teachers, principals and schools, education systems, the community and governments. Concerns need to be addressed through an alignment by education systems, schools and teachers with the approach advocated by the Queensland School Curriculum Council whereby the testing program aims to contribute to the improvement of student learning. The potential misuse and misinterpretation of test results requires continuing diligence by key stakeholders.

Beyond accountability: The impact of the testing program on improving school literacy and numeracy programs

Schools perceive that the use of the test results should assist individual student diagnosis and program improvement. Further investigations through undertaking an impact evaluation might reveal the ways in which school systems, schools, teachers, parents and caregivers, and students use the testing program in informing and improving their teaching and learning processes in aspects of literacy and numeracy.

Issues relating to students with special educational needs

The development of the 1999 Queensland Years 3, 5 and 7 Testing Program commendably aims to be inclusive of all student groups through allowing some variations to normal test conditions. In relation to rural and remote students, flexibility of test administration needs to be balanced against concerns that the integrity of the test in its administration must be maintained.

Future development of test materials – the use of interactive computer based technologies

Further investigations into the potential of the new and emerging technologies needs to be undertaken to examine the implications for improving the flexibility of testing administration, the mode of testing, the time of testing, the presentation of test materials (including the implications for special considerations for inclusivity), marking of tests to enable the efficient and effective access of student data for use by schools, teachers, students, and parents and caregivers. The technology has the potential to address the issues of timeliness and accuracy of student, class, school and system reports. As described in the VSAM case study, immediate and accurate feedback is provided to students and schools.

1. Introduction

1.1 Purpose of the review

This *Issues Paper* represents the first phase of a review to:
- examine the conduct of State-based literacy and numeracy testing in Queensland over the five year period 1995-99;
- to facilitate planning for future literacy and numeracy testing.

The second phase of the review will be guided by the issues raised in this paper.

1.2 State-based literacy and numeracy testing in Queensland

The overall purposes of Queensland School Curriculum Council testing programs are to account for, and to contribute to the improvement of, student learning in literacy and numeracy.

In 1995, State-based census tests of literacy and numeracy were introduced as part of *Shaping the Future*[2] initiatives. The then Government approved the introduction into Queensland schools of the Year 6 Tests with a view to improving literacy and numeracy standards. It also approved the introduction of a Year 2 Diagnostic Test[3]. During the five year period 1995-99, the following State-based tests of literacy and numeracy have been administered:

> 1995 Queensland Year 6 Test (managed by Department of Education, Queensland);
> 1996 Queensland Year 6 Test (managed by Queensland School Curriculum Office);
> 1997 Queensland Year 6 Test (managed by Queensland School Curriculum Council);
> 1998 Queensland Years 3 and 5 Testing Program (managed by Queensland School Curriculum Council);
> 1999 Queensland Years 3, 5 and 7 Testing Program (managed by Queensland School Curriculum Council).

The most recent test conducted was the 1999 Queensland Years 3, 5 and 7 Testing Program[4] which collected data:
- from a sample of Year 3 students for systemic reporting;
- from the population of Years 5 and 7 students for systemic reporting, and for reporting to parents, caregivers and schools.

Items selected for the tests address:
- the Queensland English and Mathematics syllabuses;
- the MCEETYA-approved national benchmark standards.

Aspects of Literacy Tests cover four strands – *Writing, Spelling, Reading* and *Viewing*. Aspects of Numeracy Tests cover three strands – *Number Sense, Measurement and Data Sense* and *Spatial Sense*. Although reported differently in some years, similar aspects of literacy and numeracy have been covered in previous tests.

While evaluations of the annual testing programs have been conducted, it is timely that a review be conducted five years after the commencement of this series of testing programs. Such a review was foreshadowed in discussions leading to the Cabinet

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[2] *Shaping the Future* initiatives arose from the Wiltshire Report (Queensland Department of Education (1994), *Shaping the Future: Review of the Queensland School Curriculum*).

[3] The Year 2 Diagnostic Net was not considered an 'approved test' within the Queensland School Curriculum Council's regulation. However, information relating to the Year 2 Diagnostic Net has been provided in Queensland School Curriculum Council (QSCC) publications *Interlink* (No. 4 April 1997, and *Interlink* No. 10 1998).

[4] QSCC (1999). *1999 Queensland Years 3, 5 and 7 Testing Program Information for Schools.*

submission and decision related to the conduct of the Queensland 1999 Years 3, 5 and 7 Testing program (Decision No 00340, 23 November 1998).

1.3 Review approach

To fulfil the purpose of this phase of the review, the following methodology was employed:
- a literature review on the latest developments in literacy and numeracy testing;
- a scan of systemic/State-based literacy and numeracy testing in Australia;
- a synthesis of the findings of all evaluations and reviews prepared on the conduct of State-based literacy and numeracy testing in Queensland 1995-99[5];
- an examination of major papers related to the conduct of State-based literacy and numeracy testing in Queensland 1995-99, including reports of Council forums and Council submissions.

This paper reports the first phase of the review by outlining eight issues arising from the above methodology - defining literacy and numeracy, national literacy and numeracy benchmarks, differentiating between testing and assessment, sample and census testing, the benefits and the concerns of State-based testing in literacy and numeracy, the impact of the testing program on improving school literacy and numeracy programs, issues relating to students with special educational needs, and the future development of test materials.

2.   Defining literacy and numeracy

2.1 Description of the issue

The profile and importance of literacy and numeracy as educational priorities has been raised in recent years. The Commonwealth Government's approach to education policies centres on the importance of literacy and numeracy in which a major policy objective "is to achieve real improvements in literacy and numeracy skills for Australian children which will better fit them for their futures"[6]. Furthermore, the National Literacy and Numeracy Plan provides "a blueprint for all Australian governments to work collaboratively to achieve this objective"[7].

There continues to be ongoing debate related to the concepts of literacy and numeracy. The definition of literacy referred to by the Commonwealth Government indicates that:

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[5] The following evaluation/review reports on the testing program have been prepared since 1995: Queensland Department of Education (QDE) (September 1995), *Evaluation of the Year 6 Test Trial. Report 1: The Tendering Process.* Quality Assurance and School Review Directorate; QDE (Nov. 1995), *Evaluation of the Year 6 Test Trial. Report 2: The Item Panelling Process*; QDE (Dec. 1995), *Evaluation of the Year 6 Test Trial. Report 3: Preparation to Administer the Test in Schools*; QDE (December 1995), *Evaluation of the Year 6 Test Trial. Report 4: Administration of the Test in Schools*; QDE (April 1996), *Evaluation of the Year 6 Test Trial. Report 5: The Consultation Process;* QDE (April 1996), *Initial scan of schools' responses to Year 2 Diagnostic Net and Year 6 Test Data*; QDE (April 1996), *Evaluation of parent reporting related to the 1995 Diagnostic Net, Year 6 Test Trial, and Mathematics Student Performance Standards*; QSCC (Nov. 1998), *1997 Year 6 Test: School Survey*; QSCC (Feb. 1999), *Evaluation of 1998 Queensland Years 3 and 5 Testing Program: Results of Principals and Teacher Surveys*; QSCC (March 1999), *Evaluation of 1998 Queensland Years 3 and 5 Testing Program: Results of Principal and Teacher Surveys – Inclusivity Issues*; QSCC (1999), *1999 Queensland Years 3, 5 and 7 Testing Program Information for Schools.*
[6] DETYA, *Literacy for All: The Challenge for Australian Schools* (1999), Available: http://www.detya.gov.au/schools/literacy%20for%20all/sect1_1.html [Accessed 3 December 1999]
[7] DETYA, *Literacy for All: The Challenge for Australian Schools* (1999), Available: http://www.detya.gov.au/schools/literacy%20for%20all/sect1_1.html [Accessed 3 December 1999]

> "Effective literacy is intrinsically purposeful, flexible and dynamic and involves the integration of speaking, listening and critical thinking with reading and writing"[8].

That definition developed by the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) [9] has been adopted by the Queensland School Curriculum Council as indicated in its *Literacy Position Paper*[10]. Similarly, the Queensland School Curriculum Council has developed a *Numeracy Position Paper*[11]. Both papers seek to align conceptions of literacy and numeracy across "systems, key learning areas and year levels, to enable syllabus writers, schools and teachers to work collaboratively and coherently" towards developing students' literacy and numeracy capabilities.

The Queensland School Curriculum Council indicates that:
> "The Statewide literacy tests assess performance in some aspects of literacy that can be measured by pen-and-paper tests. Current understandings of literacy are broadening, however, with the recognition of the importance of literacy skills that are not measured by the tests. For example, skills associated with computer technology such as using the Internet and reading and viewing video screens, which are not measured in the tests, are increasingly linked to success in the workplace."[12]

Evidence of advocacy for a broader definition for literacy is provided by Graff[13] who claims that we need to note:
> "…the many literacies in addition to or 'beyond' 'traditional' alphabet literacy – from those of science and numeracy, to the spatial literacy that some geographers term 'graphicacy', to the loudly touted and seemingly highly vulnerable 'cultural literacy', 'historical literacy', and 'moral literacy'. Some among the lengthening lists are long established in presumption but much more novel discursively or semantically: ecological literacy, 'teleliteracy' and other media literacies, food literacy, emotional literacy, sexual literacy."

It is now becomingly increasingly more common to hear literacy being used in broader definitions such as scientific literacy[14], media literacy[15], and critical literacy[16]. Similarly, in relation to numeracy, Willis[17] asks what we mean when we talk about the need to improve numeracy skills. She asks: What is numeracy? And what has mathematics got to do with it? Is numeracy one of the literacies? An aspect of literacy? A complementary partner to literacy? Willis suggests that three perspectives can be identified in the policy and curriculum literature:

- *Numeracy as mathematics.* This perspective tends to emphasise 'the basic skills' of numeracy in terms of the mathematical concepts, procedures and skills students need to know.
- *Numeracy as communicative competence.* Willis suggests that some refer to this as the literacy view of numeracy whereby numeracy is described in terms of the everyday situations in which mathematics is embedded or which could benefit from the application of mathematics. From this perspective, literacy and numeracy are

[8] Department of Employment, Education and Training (1991). *Australia's language, The Australian Language and Literacy Policy.* Canberra, p. 5.

[9] MCEETYA (1997), *Improving the Literacy and Numeracy Skills of Young Australians – A National Plan.* Canberra: DEETYA.

[10] QSCC (November 1998), *Literacy Position Paper*.

[11] QSCC (August 1999), *Numeracy Position Paper*.

[12] QSCC (June 1999), Some factors affecting student performance in literacy. *Interlink* No. 20, p. 1.

[13] Graff, H.J. (1995). The Labyrinths of Literacy: Reflections on Literacy Past and Present. Pittsburgh: University of Pittsburgh Press, p. 321.

[14] Shamos, M. (1995). *The Myth of Scientific Literacy.* New York: Rutgers University Press.

[15] Quin, R. (1998). Media Literacy and the Information Age. In Livermore, J. *More Than Words Can Say.* Canberra: Australian Centre for Arts Education.

[16] Lankshear, C. and McLaren, P. (eds) (1993). *Critical Literacy. Politics, Praxis and the Postmodern.* Albany NY: State University of New York Press.

[17] Willis, S. (August 1998), Which numeracy? *Unicorn* Vol. 24, No. 2, pp. 32–42.

best taught, learned and assessed where they occur through activities in social contexts.

- *Numeracy as strategic mathematics.* From this perspective, students are considered to be more or less numerate, not according to how much mathematics they know or what situations they can deal with – but according to how they will choose and use the mathematical skills they have as part of their strategic repertoire.

The difficulty of reaching consensus on an internationally or nationally accepted definition is recognised in the *Numeracy Position Paper*[18] which provides the following definition of numeracy adopted by the Queensland School Curriculum Council:

> "Numeracy is the manifestation of practices and dispositions that accurately, efficiently, and appropriately meet the demands of typical everyday situations involving number, space, measurement and data."

Different definitions and interpretations of literacy and numeracy influence the purpose and design of assessment systems and instruments.

2.2 Comments

Given the context of the conversations evident in defining literacy and numeracy, common shared understandings of literacy and numeracy held by governments, school authorities, principals, teachers, parents/caregivers and students might be enhanced by the literacy and numeracy definitions adopted by the Queensland School Curriculum Council. It is important, therefore, that while the Queensland Years 3, 5 and 7 Testing Program has undoubtedly been a catalyst in assisting the Commonwealth and Queensland Governments to establish literacy and numeracy as educational priorities, there needs to be continuing clear articulation:

- of the meanings assigned to literacy and numeracy in the Queensland Years 3, 5 and 7 Testing Program;
- that the purpose of the Queensland Years 3, 5 and 7 Testing Program is to test *some* aspects of literacy and numeracy that can occur through pen and paper testing.

3.   National literacy and numeracy benchmarks

3.1 Description of the issue

The Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) agreed to the national literacy and numeracy goal:

> *That every child leaving primary school should be numerate, and be able to read, write and spell at an appropriate level.*

Endorsed as part of the National Literacy Plan were:

- the development of national benchmarks in literacy and numeracy at Years 3, 5, 7 and 9;
- rigorous, State-based assessment of all students against Year 3 benchmarks in numeracy, reading, writing and spelling from 1998 onwards, and against Year 5 benchmarks as soon as possible[19].

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[18] QSCC (August 1999), *Numeracy Position Paper*.
[19] QSCC (1999), *Statewide performance of students in aspects of literacy and numeracy in Queensland 1998 Report to the Minister for Education,* p. 1.

The summary of issues displayed in Table 1 is based upon the identification of issues relating to national literacy and numeracy benchmarks by Peach[20] who was Chair of the MCEETYA Literacy and Numeracy Benchmarking Taskforce in 1998.

Table 1: National Literacy and Numeracy Benchmarks - Issues

Issues	Current and Future Directions
• Commonwealth–State relations.	Difficulties and tensions exist. Attempts, however, need to be made to move forward nationally as well as allowing States and Territories to undertake initiatives.
• National comparability.	Challenges emerge here for comparability of data including length of time at school, timing of testing programs, differences in curriculum, and socio-economic and cultural variables.
• Benchmarks are not the complete literacy and numeracy curriculum.	The benchmarks do not attempt to meet the breadth of literacy and numeracy curriculum. Some of the criticisms being raised about benchmarks and about Statewide testing programs reflect a concern that teachers will teach to the benchmarks and this will limit the range of literacy and numeracy learnings.
• Literacy and numeracy in upper primary and secondary years of schooling.	Debate continues as to what constitutes literacy and numeracy in the secondary years of schooling. Consideration is suggested for examining the assessment of secondary students in key learning areas; e.g. English and Mathematics.
• Benchmarks at Year 9 or 10.	Some States and Territories have some form of literacy and numeracy assessment in either Year 9 or 10. Advocacy for assessment in Year 9 is that it still allows time for intervention programs for students experiencing difficulties before they leave the compulsory years of schooling.
• Purposes for the benchmarks.	The primary purpose of the benchmarks is to articulate common minimum acceptable standards for literacy and numeracy. Concerns are related to the use of data. For example, benchmark data might be used as a significant information source on which the allocation of funds to States and Territories is based.
• Processes to be implemented after assessment.	The question is what happens as a result of collecting the data. Current programs might require examination and improvement. Intervention programs should be provided for those students not reaching the benchmark standard.
• Teacher expertise and workload.	Some concerns have been noted that assessment of students against the benchmarks might result in additional work for teachers. Also, there is some recognition that teacher knowledge and expertise might need enhancing to ensure effective teaching in areas being tested.
• The development of standards (proficient and exceptional) beyond an adequate standard.	Initial work which commenced on the development of proficient and exceptional standards to provide information about students who are working above a minimum acceptable standard ceased and the States and Territories were allowed to use the draft materials as they wished.

Recent developments include the agreement by Queensland to 'common items' developed cooperatively with other State and Territory education authorities to enhance the comparability of Queensland's report to other States and Territories against the

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[20] Based upon issues identified by Peach, F. (1998). The national literacy and numeracy strategies: implications for educators. In *Unicorn,* Vol. 24, No. 2 August 1998, pp. 15–17.

national benchmarks. This will involve a small number of items which can be included in the equating processes to set the cut-score against the national benchmark standards. The benchmarks, in representing only the essential elements of literacy and numeracy, describe agreed minimum acceptable standards for literacy and numeracy for a particular year level. Mr Dean Wells, the Minister for Education in Queensland, has been concerned with problems of validity and reliability in comparing results with other States due to reasons such as the differences between States of the time of testing and differences in ages, time at school and year levels of students.

Agreement has been reached nationally that August will be the time of the year when testing will occur and the use of common items replaces the need for uniform national testing.

3.2 Comments
The systematic data collection on student performance against the benchmarks provides information about performance of Australian students in literacy and numeracy. The benchmarks enable the provision of information for schools and systems to assist program planning and improvements. Thus, it enables the provision of systemic information in relation to national standards. Importantly, collaboration between education authorities in the Australian States and Territories has been required to involve input from key stakeholders from the various government and non-government authorities.

The 1999 Queensland Years 3, 5 and 7 Testing Program included some common items to allow validation of State comparisons obtained through the use of teacher and expert judgment – known as the National Collaborative Equating Model. Moreover, an attempt was made to ensure that there were sufficient items thought to be around the benchmark level so that the accuracy of identifying the cut-score to represent the benchmark standard could be increased. In addition to those items, the tests contained items covering a broader range of performance "developed specifically for Queensland students, based on Queensland curriculum and reviewed by panels of Queensland teachers"[21]. Thus, caution needs to be exercised in national comparability of data.

4. Differentiation between testing and assessment

4.1 Description of the issue
The emerging issue relates to whether or not the focus should remain on the provision of a *test* or whether or not the focus should be broadened to refer to an *assessment program* similar to some other States and Territories. As shown in Table 2, a variety of titles is used by the Australian States and Territories for their 'testing' programs. Terms include 'testing', 'basic skills testing', 'assessment' and 'monitoring'.

Table 2: Australian States and Territories and their 'Testing' Programs

State and Territory	Name of Program
Australian Capital Territory	Australian Capital Territory Assessment Program
Northern Territory	Multilevel Assessment Program (MAP)
Victoria	Learning Assessment Project (LAP)
New South Wales	Basic Skills Testing Program (BST)
Queensland	Queensland Years 3, 5 and 7 Testing Program
Western Australia	Western Australia Literacy and Numeracy Assessment Program
South Australia	Basic Skills Testing Program (BST) Year 3 and Year 5 Writing Assessments
Tasmania	Year 3 and Year 5 Literacy Monitoring Program

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[21] QSCC (1999), *1999 Queensland Years 3, 5 and 7 Testing Program Information for Schools.*

The Queensland School Curriculum Council, in the development of Key Learning Area syllabuses, indicates that assessment "within an outcomes framework is the purposeful, systematic and ongoing collection of information about students' demonstrations of learning outcomes"[22]. This appropriately reflects contemporary techniques for gaining information about students utilising a diverse range of techniques about what students 'know and can do'. Assessment techniques might include pencil and paper tests, but can also include observations, consultations, focused analysis, and self and peer assessments. Thus, testing is seen as a sub-set of assessment.

The differentiation between testing and assessment is very clearly outlined by the Queensland School Curriculum Council in information booklets to schools;
> "The Years 5 and 7 Tests should be considered as tests that complement other effective classroom assessment and reporting practices such as:
> * Gathering information about students' learning through observation, consultation and focused analysis;
> * Supporting student peer and self-assessment;
> * Maintaining folios of selected assessment information;
> * Analysing information to inform planning and support;
> * Reporting formally and informally to students and parents or caregivers."[23]

The differentiation is also made explicit in brochures to parents and caregivers:
> "The test results will form a part of the student's total assessment and will not replace other assessment tasks set by the teacher or the student's class report."[24]

An examination of the 'testing' and 'assessment' programs in other Australian States and Territories reveal that they also predominantly conduct tests. With the exception of writing tasks, the techniques employed do not utilise a diverse range of assessment techniques.

Some critics oppose the concept of testing in general and of multiple-choice tests in particular. Phelps[25], for example, presents case studies in which even testing 'experts' criticise 'testing'. The critics see testing as a practice that "distorts the curriculum, discourages higher order thinking skills, and ultimately, depresses student achievement". Furthermore, Luke and van Kraayenoord[26], in identifying concerns which need to be considered in the assessment of literacy, highlight the limitations of 'testing' literacy:
> * *Context:* Assessment itself is not neutral and constructs a social context for literate behaviour. Accordingly its tasks and items should approximate as much as possible real and diverse conditions of use and practice.
> * *Systematic observation:* Single-shot pencil and paper assessment in itself is not as useful for flexible adaptation and adjustment of curriculum and instruction as teacher-based observation of literacy practices and events.
> * *Pedagogic process:* Observation of instructional interaction (not just performance outcomes) is a crucial part of formative and developmental assessment.
> * *Textual diversity:* Assessment should encompass a broad array of text types rather than simply school-based or textbook style texts.
> * *Descriptive metalanguage:* Assessment requires an analytic metalanguage that has some technical and theoretical power beyond commonsense namings of skills and behaviours.

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[22] Definition provided in the Glossary of QSCC (1999), *Technology Years 1 – 10 Syllabus-in-development Trial Draft Term 4, 1999,* p. 47.

[23] QSCC (1999), *1999 Queensland Years 3, 5 and 7 Testing Program Information for Schools.*

[24] QSCC (1999), *The 1999 Queensland Years 3, 5 and 7 Testing Program What you need to know Information for Parents or Caregivers.*

[25] See Phelps, R. Why Testing Experts Hate Testing. *Fordham Report* (January 1999). Available: http://www.edexcellence.net/library/phelps.htm [Accessed 21 November 1999].

[26] Luke, A. and van Kraayenoord, C. E., Babies, Bathwaters and Benchmarks: Literacy Assessment and Curriculum Reform. *Curriculum Perspectives* Vol. 18, No. 3 1998, pp. 55–61.

- *New textual practices and integrated modalities:* Assessment should focus on 'new basics', including aspects of critical literacy, visual and media literacy, and online literacy, and how particular literate practices and events may require and value new combinations of these.

The testing program employed in Queensland provides teachers with valid and reliable data to *complement* student information obtained through a range of other assessment techniques. Caution needs to be exercised in the use of the test results in isolation.

4.2 Comments
The emerging issue relates to whether or not the focus should remain on the provision of a test or whether or not the focus should be broadened to refer to an assessment program. While there are criticisms associated with testing, it needs to be seen as a sub-set of assessment. As such, the Queensland Years 3, 5 and 7 Testing Program complements student information gained by using a diverse range of other assessment techniques.

A reimaging to refer to the program as being an Assessment Program similar to titles used in the ACT, Victoria, and the Northern Territory would be misleading by claiming that the 'test' does more than it was designed to do. Linn and Herman[27] warn that an assessment that "attempts to perform too many functions – student diagnosis, curriculum planning, program evaluation, instructional improvement, accountability, certification, public communication – will inevitably do none well".

A move to include a wider range of assessment techniques involving teachers Statewide would be confronted with teacher workload implications, although some other States and Territories (e.g. Western Australia and the Australian Capital Territory) seem to have managed to address this issue successfully. The current testing program does not require substantial teacher workload as the contracted provider for the 1999 Queensland Years 3, 5 and 7 Testing Program, Hermes Precisa Australia, in partnership with the Australian Council for Educational Research, was responsible for developing the tests, providing the test materials, marking the tests, analysing the data, and for reporting the test results to schools, school authorities and the Queensland School Curriculum Council. Teacher workload was restricted to responsibility for the administration of the tests, completing evaluation surveys, forwarding reports to parents and caregivers, and using the test results to inform program planning and improvement.

5.   Sample and census testing

5.1 Description of the issue
The 1999 Queensland Years 3, 5 and 7 Testing Program was:
- administered in schools to a sample of Year 3 students;
- administered to all Years 5 and 7 students in participating schools;
- mandatory for all state schools;
- encouraged, but voluntary, for non-state schools.

Conflicting positions are evident in advocacy for either *sample* testing or *census* testing. Evidence[28] suggests that census testing was the most preferred form of Statewide testing by principals and teachers. The Queensland Teachers' Union, on the other hand, opposes census testing. Tension exists in relation to the possible use of census testing for Year 3 students. There is resistance from the Queensland Teachers' Union for the

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[27] Linn, R.L. and Herman, J.L. (1997). *A Policymaker's Guide to Standards-Led Assessment.* Denver: Education Commission of the States, p. vi.
[28] QSCC (February 1999), *Evaluation of 1998 Queensland Years 3 and 5 Testing Program: Results of Principals and Teacher Surveys*, page 17 S7 and page 18 C4.

introduction of census testing in Year 3 on the basis that testing is not appropriate for young children and that it closely follows the Year 2 Diagnostic Net.

Results from the most recent school surveys display a preference for census testing over sample testing for Years 3, 5 and Year 7[29]. In response to being asked – what form of testing do you favour? – 67.1% of respondents favoured Year 5 census testing compared to 8.7 % who favoured Year 5 sample testing; 66.7% favoured Year 7 census testing compared to 7% who favoured Year 7 sample testing; and 45.1% favoured Year 3 census testing compared to 8.6% who favoured Year 3 sample testing. It should be noted that there was a significant percentage of respondents who had 'no answer' for the Year 3 question. It is assumed that this is because those schools had not participated in the Year 3 sample testing process. In 2000, however, further data will be obtained from the evaluation of the Year 3 Resource Kit.

5.2 Comments
The central question relating to the sample versus census debate relates to the question - for whom is the testing designed? If the audience is the education system or government, then sampling might achieve the desired result for gaining some overall data to examine student achievement and inform policy.
Sampling of students does not provide information either for individual students or for their parents and caregivers, and, therefore, has limitations for informing teachers about their students and for comprehensively informing schools to assist them in their decision-making processes relating to school program planning and improvement. Sample testing, however, is less intrusive and non-threatening to schools and students, especially in the early years of schooling. Census testing allows schools to 'monitor and track' students through critical stages of their literacy and numeracy development. Sampling does not allow the State of Queensland to conform with the agreed MCEETYA commitment to the National Literacy Plan. Significantly, this could lead to financial cuts to nationally supported literacy and numeracy programs within the State of Queensland.

In addition, census testing for Year 3 students would provide further data to complement the Year 2 Diagnostic Net information and provide schools with the opportunity of monitoring and mapping individual progress through Years 3, 5 and 7.

6. State-based testing in literacy and numeracy: The benefits and the concerns

6.1 Description of the issue
This section provides a synthesis of the potential benefits and the potential concerns of State-based testing for various stakeholders. The potential benefits and concerns, as displayed in Table 3, are based upon the assumption of the implementation of census testing.

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[29] QSCC (November 1999). *Evaluation of the 1999 Queensland Years 3, 5 and 7 Testing Program Interim Report*.

Table 3: State-based testing: The potential benefits and the potential concerns

The potential benefits	The potential concerns
For students:	
• Provides assessment tasks that have been extensively trialled; • Includes items linked to Queensland syllabuses; • Provides information which complements their class-based assessment information; • Assists students in identifying her/his strengths and weaknesses in a selected number of contexts; • Enables communication of test results between students, their parent/caregiver, and their teacher/s; • Enables students to monitor their growth in literacy and numeracy over time; • Provides for special considerations and exemptions.	• Provides a narrow range of test results limited to pencil and paper, largely multiple-choice test items; • Provides a considerable time delay between test administration and reporting of results; • Narrows the curriculum to a small domain of test related areas; • Induces "teaching to the test"; • Focuses student achievement on only one set of results.
For teachers:	

• Provides extensively trialled test items;
• Complements teachers' class-based assessment information;
• Includes items linked to Queensland syllabuses;
• Identifies student strengths and weaknesses;
• Enables communication between teachers, the student, and the student's parent/caregiver;
• Indicates test results for students, class and school groups;
• Provides test results to enable an analysis of results for gender, NESB, and A&TSI groups;
• Enables student growth in literacy and numeracy to be monitored over time;
• Provides special considerations and exemptions for students;
• Provides test information to inform program planning, curriculum development and classroom teaching.
	• Provides a narrow range of test results limited to pencil and paper, largely multiple-choice test items;
	• Includes items which are not related to classroom programs;
	• Provides a considerable time between test administration and reporting of results;
	• Provides the potential for misuse of the test results, including:
	  ➤ the creation of 'league tables';
	  ➤ the allocation of funding and resources;
	  ➤ narrowing the curriculum to a small domain of test related areas; inducing "teaching to the test";
	  ➤ misinterpretation of the data by the media;
	• Does not solve complex social and educational problems

For principals and schools:	

• Includes items linked to Queensland syllabuses;
• Provides information which enhances strategic leadership and planning;
• Informs curriculum planning, school programs, and resourcing needs;
• Enables the systematic reporting of school results to school communities and education system;
• Facilitates the monitoring of school benchmarks and setting targets;
• Assists in identifying staff professional development needs;
• Provides awareness of State and national literacy and numeracy initiatives.
	• Provides a narrow range of test results limited to pencil and paper, largely multiple-choice test items;
	• Includes items which are not related to classroom programs;
	• Provides a considerable time delay between test administration and reporting of results;
	• Provides the potential for misuse of the test results, including:
	  ➤ the creation of 'league tables';
	  ➤ the allocation of funding and resources;
	  ➤ narrowing the curriculum to a small domain of test related areas;
	  ➤ inducing "teaching to the test";
	  ➤ misinterpretation of the data by the media;
	• Does not solve complex social and educational problems.

For parents and caregivers:	
• Provides their child with test items which have been extensively trialled and provide comparability with other schools and systems in Australia; • Provides a confidential, individual report showing information which complements class and school generated assessment information; • Provides parents and caregivers with assessment information identifying their child's strengths and weaknesses; • Provides information brochures to parents and caregivers; • Provides an avenue for communication between the student, the parent/caregiver, and the teacher/s; • Enables parents and caregivers to monitor their child's growth in literacy and numeracy over time.	• Provides a narrow range of test results limited to pencil and paper, largely multiple-choice test items; • Provides a considerable time delay between test administration and reporting of results; • Does not solve complex social and educational problems.

For the community:	
• Enhances public accountability; • Enhances public confidence; • Provides trend information.	• Does not solve complex social and educational problems; • Provides the potential for misuse of the test results.
For education systems:	

• Provides information to contribute to public accountability;
• Provides information to contribute to the improvement of student learning in literacy and numeracy;
• Provides information which allows for monitoring student outcomes over time;
• Provides test results to enable an analysis of results for gender, NESB, and A&TSI groups;
• Facilitates links between education systems in Australia;
• Informs strategic planning at the systems level
	• Provides the potential for misuse of the test results, including:
	  ➢ the creation of 'league tables';
	  ➢ the allocation of funding and resources;
	  ➢ narrowing the curriculum to a small domain of test related areas;
	  ➢ inducing "teaching to the test";
	  ➢ misinterpretation of the data by the media.
	• Provides a considerable time delay between test administration and reporting of results;
	• Does not solve complex social and educational problems.

For government:	

• Provides a detailed analysis of information for annual trends in literacy and numeracy;
• Provides a detailed analysis of outcomes for groups;
• Enhances public accountability;
• Informs strategic planning at the governmental level.
	• Provides the potential for misuse of the test results, including:
	  ➢ the creation of 'league tables';
	  ➢ the allocation of funding and resources;
	  ➢ narrowing the curriculum to a small domain of test related areas;
	  ➢ inducing "teaching to the test";
	  ➢ misinterpretation of the data by the media.
	• Does not solve complex social and educational problems.

Both the current Minister for Education in Queensland and the Queensland Teachers' Union oppose the reporting of 'league tables'. In an interview with Mr Tim Eltham, Senior Ministerial Policy Advisor to the Minister for Education in Queensland, the real issues concerning performance information are not about its use but about its potential for misuse.

The Queensland School Curriculum Council indicates that "It is important that teachers and principals give consideration to confidentiality and security issues associated with student, class and school Test data"[30]. Data is required to be stored securely and, with the exception of authorised persons such as a student's parent or caregiver and teacher, the identification of individual students is not possible. In addition, the public publishing of lists of schools' student aggregated data is cautioned to avoid the creation of 'league tables' of results.

In the United States, The National Center for Fair and Open Testing[31] argues that testing does not address fundamental problems with US students' learning relating to inadequate education. Similarly, the Queensland School Curriculum Council, in examining factors affecting student performance in literacy, warns that:

> "The existing test data clearly highlight differences in performance between different groups of students in Queensland schools. The challenge to us as educators is to avoid the pitfall of the simplistic response, and to seek to understand the complexities of the issues affecting school achievement"[32].

Testing can produce results that are inaccurate, inconsistent and, through discriminatory items, disadvantage low-socioeconomic groups, and ethnic, indigenous and gender groups. Some suggest that tests "shift control and authority into the hands of the…testing

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[30] QSCC (1998). *1998 Queensland Year 5 Test Guide to Reports*, p. 1.

[31] FairTest: The National Center for Fair and Open Testing (1999). *Measuring Learning Does Not Improve learning: FairTest Fact Sheet on National Testing*. Available: http://fairtest.org/facts/ntfact.htm [accessed 7 December 1999].

[32] QSCC (June 1999), Some factors affecting student performance in literacy. *Interlink*, No. 20, p. 5.

authority and undermine school achievement by narrowing the curriculum, frustrating teachers, and driving students out of school"[33].

6.2 Comments
The potential benefits of State-based census testing are considerable for students, their parents and caregivers, teachers, principals and schools, education systems, the community and governments. Concerns identified, for example, that the testing program might result in 'narrowing the curriculum' and teachers' becoming focused on 'teaching to the test' needs to be addressed through an alignment by education systems, schools and teachers with the approach advocated by the Queensland School Curriculum Council whereby the testing program aims to contribute to the improvement of student learning. Because the Queensland School Curriculum Testing Program is aimed at providing opportunities for a range of student abilities to be achieved and challenged, the tests do not aim at 'dumbing' down the curriculum.

The potential misuse and misinterpretation of test results requires continuing diligence by key stakeholders.

The responsibility for the Queensland School Curriculum Council is to report only on Statewide results. School systems can take decisions about further analyses of the test results; e.g. analyses according to districts, group results (gender, A&TSI, NESB), size of school and other characteristics.

7. Beyond accountability: The impact of the testing program on improving school literacy and numeracy programs

7.1 Description of the issue
The overall purposes of the 1999 Queensland School Curriculum Council Years 3, 5 and 7 Testing Program are to account for, and to contribute to the improvement of, student learning in literacy and numeracy. The accountability dimension of the testing program has provided systematic data collection about some aspects of students' literacy and numeracy development. The issue identified here relates to the use of test information to "contribute to student learning in literacy and numeracy".

Different perceptions are held by various stakeholders and audiences of the purposes of the testing program. For example, in the Report on the Special Education Forum[34], participants suggested that the purposes of the tests related to:
> "political purposes - *testing appears to be linked to data collection for political purposes;*
> financial processes - *…to facilitate funding*;
> reporting to parents - *testing allows a normal continuum reference…for some parents of students with special needs this can be a positive thing…"*

More recently, school surveys sought perceptions about what should be the major purposes of State-based literacy and numeracy testing programs[35]. The five highest ranking responses in order of importance were the *diagnosis of individual student needs*, *school program improvement*, *individual student information for parents*, *teacher program improvement*, and *system program improvement.* The three lowest ranking responses were *school accountability*, *system accountability*, and *teacher accountability.*

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[33] Medina, N. and Neill, M. (1990). *Fallout from the Testing Explosion: How 100 Million Standardized Exams Undermine Equity and Excellence in America's Public Schools.* Cambridge: FairTest.
[34] QSCC (Semester 2 1998), *Report on the Special Education Forum,* p. 13.
[35] QSCC (November 1999). *Evaluation of the 1999 Queensland Years 3, 5 and 7 Testing Program Interim Report*.

While the testing program provides information for accountability purposes, these findings strongly indicate that schools perceive that the purposes of the testing program should be to diagnose student needs, provide information to parents, and to assist teacher, school and systems program improvement. Accountability purposes of the testing program were perceived to be less important than the purposes relating to program improvement. In the *1999 Queensland Years 5 and 7 Tests Guide to Reports*[36], five steps are provided on how to use the test results when planning individual student, class and school programs. Therefore, while the extent to which schools use the test results for informing program improvement is the responsibility of the education authorities and not the responsibility of the Queensland School Curriculum Council, further investigation of how schools utilise the test results could contribute to improving student learning in literacy and numeracy.

7.2 Comments

The perceived importance of the use of the test results for the *diagnosis* of individual student needs suggests that teachers might use the test results as a confirming check to be used to supplement other school-based assessment information they have obtained.

Schools appear to assign less priority on accountability uses of the test results than on the use of the results for program improvement. In moving forward beyond accountability, the school survey results suggest that the Queensland Years 3, 5 and 7 Testing Program has the potential to inform and assist the improvement of the quality of education in Queensland. Further investigations through undertaking an impact evaluation might reveal the ways in which school systems, schools, teachers, parents and caregivers, and students use the testing program in informing and improving their teaching and learning processes in literacy and numeracy.

8.   Issues relating to students with special educational needs

8.1 Description of the issue

Inclusivity issues were identified in the evaluation of the 1998 Queensland Years 3 and 5 Testing Program[37]. In particular, the following conclusions were made:

- Suggestions to include more information on the levels of assistance allowed for students requiring special considerations and more information on special considerations and exemptions are worthy of further consideration;
- The concerns of a small number of principals and teachers about the Year 3 and Year 5 Tests or Test items not being inclusive of all students were worthy of noting and discussion. In particular, attention should be paid to the inclusiveness of Tests or Test items for:
  ⇒ Students from Aboriginal backgrounds and students from Torres Strait Islander backgrounds,
  ⇒ Students from non-English-speaking backgrounds,
  ⇒ Students with vision, hearing or physical impairments; and
  ⇒ Students with learning difficulties.

Tension exists between inclusivity issues and the purposes and nature of Statewide testing and its benefits. As highlighted in the evaluation report[38]:

> "Of particular importance is the brief that the tests are required to measure the full range of student performance across the State, while at the same time reporting against the national benchmarks. Given such a wide brief, it needs to be communicated that it is inevitable that

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[36] QSCC (1999), *1999 Queensland Years 5 and 7 Tests Guide to Reports.*

[37] QSCC, *Evaluation of 1998 Queensland Years 3 and 5 Testing Program: Results of Principal and Teacher Surveys Inclusivity Issues* (March 1999).

[38] QSCC (March 1999), *Evaluation of 1998 Queensland Years 3 and 5 Testing Program: Results of Principal and Teacher Surveys Inclusivity Issues*, p. 6.

> not every principal and teacher will regard the tests as being compatible with all activities undertaken in specific classes or schools."

Many of the issues raised above were dealt with in the 1999 Testing Program through special considerations. Special considerations may be provided to students who meet the minimum criteria set out in the *Guidelines for Special Considerations – to assist school decision making* [39] provided to schools. In addition, students can be exempted from the testing program.

The needs of rural and remote students were identified at the 1999 Rural and Remote Forum[40] resulting in the consideration of issues and suggested 'steps' which the Rural and Remote Forum Working Party endorsed as priorities:

- Effecting greater participation of rural and remote communities in curriculum and test development;
- Greater acknowledgment in curriculum and tests of the unique circumstances of educators working in the rural and remote area, particularly young primary teachers in multi-age classes and home tutors;
- Planned, systemic research and/or evaluation of curriculum in rural and remote communities focusing on such aspects as its effect on teachers, home tutors and students, and role of technology.

Of particular importance were suggestions related to increasing the flexibility of test administration to allow students to complete the tests at home and to researching computer-assisted testing.

8.2 Comments

The development of the 1999 Queensland Years 3, 5 and 7 Testing Program commendably aims to be inclusive of all student groups through allowing some variations to normal test conditions. In particular, information on special considerations and exemptions and more information on the levels of assistance allowed for students requiring special consideration has been provided.

In relation to rural and remote students, flexibility of test administration needs to be balanced against concerns that the integrity of the test in its administration must be maintained. While there are difficulties in ensuring that a trained teacher supervises the test, any variation from that test administration would need adequate controls.

9.   Future development of test materials – the use of interactive computer based technologies

9.1 Description of the issue

The new and emerging technologies provide potential for test administration. The Victorian Student Achievement Monitor (VSAM)[41] is summarised as a case study to highlight some of the developments occurring in the application of computer-based technologies in test administration in Victoria.

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[39] *Guidelines for Special Consideration – to assist school decision making* are provided in QSCC (1999). *1999 Queensland Years 3, 5 and 7 Testing Program Information for Schools,* pp. 43–45.
[40] QSCC (October 1999), *1999 Rural and Remote Forum Report 2 Final Report Draft Copy*.
[41] Board of Studies, Victoria (1999), *Assessment and Reporting VSAM.* Available: http://www.sofweb.vic.edu.au/assess/vsam.htm [accessed 14 December 1999].

An Interactive Computer Based Program: A Case Study

VSAM is a computer adaptive Internet delivered testing system being trialled in Victoria involving more than 30 000 students. The rationale for that interactive computer-based program trial[42] included the following anticipated advantages;

- A computer based program will be capable of providing students, parents and teachers with immediate feedback in terms of achievement against the CSF[43];
- An interactive computer based program will be innovative and creative in design, and will demonstrate the use of the latest technologies in the classroom to enhance accessibility and flexibility;
- Students can be assessed in terms of their individual levels of achievement using a range of assessment items which is more extensive than can be offered by pen and paper assessments. It allows for an increased range of stimulus materials and a wider range of student responses;
- An interactive program is more challenging for able students and less stressful for less able students;
- An interactive computer based assessment program can provide greater flexibility for students and teachers in its administration. While the Board will report students' achievements against Statewide standards only at predetermined times of the year, the students can 're-do' the assessment at later times for the purposes of further monitoring or to have their assessments updated.

In the administration of VSAM, each student is presented with a different selection of items drawn from a large item pool. Thus, students working on computers in close proximity to one another will be exposed to different test items. More than 4 500 items had been developed with a large input from practising teachers in Victorian schools. During the trialling, these items were further refined through calibrating the items to enhance validity.

An analysis of the trial data has revealed that:

- school software configuration may require further investigation in order to assist schools to resolve connectivity issues;
- students have been enthusiastic about the test delivery medium and format, finding the system to be user friendly;
- parents welcome the introduction of assessment in Years 7 and 9, seeing VSAM as a valuable addition to the information gained via the Learning Assessment Project in Years 3 and 5;
- schools are operating a broad range of hardware and software configurations.

The long-term goals of VSAM are to provide a comprehensive range of assessment, flexible 'on demand' assessment and return of results, creative question design using multimedia stimuli, access by students of any age in any location, links with other on-line curriculum and learning programs, and inexpensive assessment delivery as technology becomes cheaper and more accessible.

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[42] Board of Studies, Victoria (November 1997). *Victorian Student Achievement Monitor.*
[43] Victorian schools have a Curriculum and Standards Framework (CSF) consisting of eight key learning areas from Prep to Year 10.

9.2 Comments

Further investigations into the potential of the new and emerging technologies needs to be undertaken to examine the implications for improving the flexibility of testing administration, the mode of testing, the time of testing, the presentation of test materials, (including the implications for special considerations for inclusivity), marking of tests to enable the efficient and effective access of student data for use by schools, teachers, students, and parents and caregivers.

The technology has the potential to address the issues of timeliness and accuracy of student, class, school and system reports. As outlined in the VSAM case study, immediate and accurate feedback is provided to students and schools.

10.   Conclusion

This paper identified eight issues associated with the Queensland Years 3, 5 and 7 Testing Program to guide further review of the program – defining literacy and numeracy, national literacy and numeracy benchmarks, differentiating between testing and assessment, sample and census testing, the benefits and the concerns of State-based testing in literacy and numeracy, the impact of the testing program on improving school literacy and numeracy programs, issues relating to students with special educational needs, and the future development of test materials through the use of interactive computer based technologies. These issues were examined in a context within which this paper strongly advocates for the continuation of a State-based, coordinated testing program.

Considerable benefits have been identified for students, teachers, parents and caregivers, Principals and schools, communities, education systems and for governments. It is unreasonable to expect school personnel, either individually or collectively, to have sufficient time, resources and expertise to fulfil the objectives of coordinating and developing test materials and processes to the standard evident in the 1999 Queensland Years 3, 5 and 7 Testing Program which provides schools with an excellent package of prepared materials for implementation.

The responsiveness and inclusiveness of the Queensland School Curriculum Council approach to improving the testing program through evaluation, and consultation with key stakeholders within a context of intersystemic Queensland syllabus development and national collaboration is commendable. There is an effective evaluation undertaken in which feedback from key stakeholders is sought. Evidence gained from the evaluations undertaken by the Queensland School Curriculum Council[44] indicated a process of refinement of test items and processes following feedback from those stakeholders.

The issues identified and discussed in this paper can guide the next phase of the review of the testing program in Queensland.

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[44] In particular, QSCC, *Evaluation of 1998 Queensland Years 3 and 5 Testing Program: Results of Principal and Teacher Surveys* (February 1999).

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