Current Perspectives on Assessment

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Introduction

In recent years, assessment of student achievement has been receiving the attention of teachers, parents, researchers and education systems. This attention has highlighted assessment as integral to the teaching and learning process. Current assessment practices need to reflect changes based on new understandings of learning theories, new curricula that are being developed, new knowledge and skills that are necessary for the 21st Century and the accountability requirements of systems and governments. In this respect assessment of student achievement is changing as today's students face a world that demands new knowledge, skills and behaviours that have not yet been defined (Segers *et al* 2003). Students, in this fast and ever changing context, need not only develop deep understandings of disciplines but also develop the ability to analyse, synthesise and make inferences as well as think critically and problem solve. Assisting students to develop these knowledge, skills and behaviours and become life-long learners requires changes in the assessment processes at the school and classroom level.

Implications of current learning theories for assessment

Current learning theories attempt to capture all the parameters of human learning and provide information on how people learn. Common threads through learning theories indicate directions that have important implications for the educative process. Whether learning can be called the process of human change and transformation or the acquisition of knowledge and expertise, it "always entails participation in relationship and community transformation both of the person and of the social world" (Packer & Goicoechea, 2000, p227).

Learning theory emphasises learning with understanding. This means that teaching approaches should emphasise understanding rather than memorisation and teachers should assess for understanding rather than surface knowledge and recall of facts.

Current learning theory emphasises the importance of learning with understanding (Bransford *et al*, 2000). This means that curriculum and teaching approaches should emphasise understanding rather than memorisation, should provide opportunities for in-depth study to allow for firm foundation of knowledge and conceptual development and should enhance student abilities to recognise and use meaningful patterns of information. Assessment processes, then, should enable students to demonstrate deep understanding of concepts rather than surface knowledge and recall of facts. Assessment should be able to reveal the quality of students' understanding and thinking as well as specific content or processes.

People develop deep knowledge organised around important conceptual frameworks. This means that teachers should assess students' ability to assimilate concepts in

People have a natural propensity to learn and they develop deep knowledge organised around important conceptual frameworks. This means that teaching should assist learners to organise information into conceptual frameworks that facilitate transfer of knowledge from one conceptual framework to another. Knowledge developed in this context facilitates problem solving and encourages new knowledge to be created. Assessment, then, should

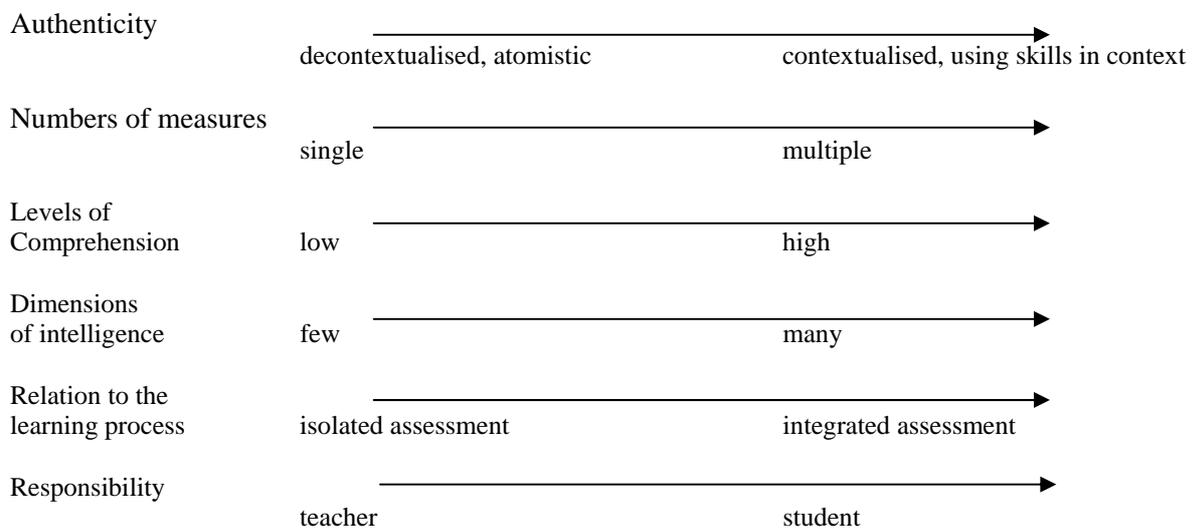|	
new conceptual frameworks, apply knowledge and solve problems.	be contextualised and allow students to show deep understanding of concepts and reveal relationships between concepts and conceptual frameworks. Assessment processes should emphasise students' ability to link ideas, apply knowledge and solve problems.
Learners construct knowledge and understandings on the basis of what they already know and believe. This means that teachers should establish students' prior knowledge and monitor students' changing conceptions as teaching and learning proceeds.	Learners construct knowledge and understandings on the basis of what they already know and believe. This means that teaching should utilise students' prior knowledge as the basis for further learning (Bransford *et al*, 2000). Learners' incomplete understandings and preconceptions need to be considered in planning for teaching and be challenged in various ways including through dialogue and the use of open-ended questions. Assessment processes should establish students' prior learning and monitor students' changing conceptions as teaching and learning proceeds. Assessment should help expose students' thinking processes to themselves and their teachers. Appropriate feedback throughout the learning/teaching process should lead students to modify and refine their thinking.
Learners learn and create understandings through social interaction. This means that teachers should engage learners in collaborative activities and use assessment practices that provide information on the learner's level of development and level of potential development.	Learning theory focuses on the process of knowing and creating knowledge as well as learning through social interaction. It follows that education should enhance ways of acquiring knowledge and create environments that engage learners in collaborative activities. Teachers should scaffold learning to support students to operate at the edge of their competence. Assessment, then, should provide feedback on how students have gone about their learning and how they could go about their future learning. It should reflect where students are at and how they could be supported to progress further. Assessment practices need to target the child's actual development and the child's level of potential development.
Meaningful learning occurs when learners are actively involved and have the opportunity to take control of their own learning. This means that teachers should provide sensitive and constructive feedback to students and use assessment practices that encourage self-assessment and metacognition.	Meaningful learning occurs when learners are actively involved and have the opportunity to take control of their own learning. This means that education should emphasise the active engagement of students in the learning process and the use of teaching strategies congruent with a metacognitive approach to learning, such as sense-making, self-assessment and reflection on what worked and what needs improving. Teaching should also focus on developing learners' strategies to gain knowledge and understanding. It follows, then, that assessment tasks should be engaging and integral to the learning/teaching process. Assessment processes should provide feedback to students and should emphasise metacognition, self-assessment and peer-assessment and the degree to which students transfer their learning to new settings.

Directions in assessment

These new understandings about learning have led to a rethinking of the educative process and a rethinking of the nature of assessment. Assessment in a constructivist and sociocultural view of learning is reflected in a contextual-qualitative paradigm (Birenbaum in Segers *et al* [eds] 2003). This approach contributes to an assessment culture that embeds assessment in the teaching and learning process and "focuses on the assessment of the process of learning in addition to that of its products" (Birenbaum, in Segers *et al* [eds] 2003, p22). In this assessment culture educators become aware of assessment processes that are congruent to learning and apply a range of measures within the context of current learning theory.

These broad directions in assessment have been described by Kulieke *at al* (1990) and adapted in *Figure 1* by Segers *et al* (2003). These directions indicate a shift from decontextualised to authentic, contextualised assessment practices; from using one single measure to using multiple measures to build a student's learning profile; from assessing low level of competence and understanding to assessing high level skills; from assessing a few to assessing many dimensions of intelligence; from isolated assessment to integrating assessment within the learning and teaching practices; and from teacher directed assessment to increasing student responsibility in the assessment process.

Figure 1: Directions in assessment

Authenticity	decontextualised, atomistic	contextualised, using skills in context
Numbers of measures	single	multiple
Levels of Comprehension	low	high
Dimensions of intelligence	few	many
Relation to the learning process	isolated assessment	integrated assessment
Responsibility	teacher	student

These directions for assessment underpin a new set of assessment practices and a new assessment culture in which assessment is used as a tool for learning (Gielen *et al* in Segers *et al,* 2003). In this culture students become active participants in the learning and assessment process by sharing responsibility in this process. Students are not powerless observers of a mystified assessment process but become engaged participants in sharing and developing criteria, in self– and peer–assessment, in reflecting on their own learning and keeping track of their performance, and in utilising feedback to refine their knowledge, skills and behaviours. In this culture teachers do not relinquish their obligations to students in the learning and assessment

process but work with students to assist them to develop strategies for learning and assessing. Teachers need to scaffold student learning by supporting them to close the gap between the desired goal and their current level of achievement.

This assessment culture is more akin to formative assessment practices which are geared to promote learning. In fact, a worldwide review of research on assessment by Black and Wiliam (1998a, 1998b, 1999) and more recently by OECD/CERI (2005) points to substantial gains in student achievement that can be affected through the use of formative assessment in the classroom. Achievement gains associated with the use of formative assessment in the classroom have been characterised as "among the largest ever reported for educational interventions" (OECD website, May 2005). The gains can be more substantial for lower achieving students. Studies also indicate that formative assessment is one of the most effective strategies in developing students' "learning to learn" skills (OECD/CERI 2005). The development of this new assessment culture, based on current learning theory and educational research, elevates the status of both student and teacher in the learning and assessment process.

Black and Wiliam (1998a) argue that teachers need to have deep understanding of formative assessment. This way, teachers should be able to employ strategies to assist students identify the gaps between their present achievements and the desired goals. Sadler 1989 (cited in Black 2000) argues that formative assessment should equip students with essential tools to manage their own learning. The underlying intention is to use Vygotsky's (1962) notion of the Zone of Proximal Development (ZPD) to facilitate the learning and teaching process. The ZPD draws attention to what the learner can achieve without help and what the learner can achieve with appropriate help. Vygotsky's framework supported by the concept of scaffolding (Wood *et al* 1976) may provide a theoretical foundation for teachers to build their approach to support student learning.

Hayward and Hedge (2005, p69) report that data emerging from the *Assessment is for Learning* formative assessment initiative in Scotland "suggests that teachers not only find their involvement energizing but that they report positive changes in the quality of pupils' work and commitment to learning". It seems then that the employment of formative assessment strategies empowers teachers and students and improves student learning and teacher satisfaction. This is a reflection of the Black and Wiliam review that "helped to take the emphasis in formative assessment studies away from *systems*, with its formative-summative interface, and relocate it on classroom *processes*" (Black & Wiliam 2003, p628). This renewed emphasis on pedagogy and assessment practices focusing on learning is central to the quest for improved outcomes for all students.

However, emphasising the use of formative assessment does not preclude the use of summative assessment. When summative assessment is aligned to the curriculum and the students' learning experiences, then it becomes integrated into the learning and assessment cycle and feeds into improving student learning rather than just measuring it. Moreover, according to Black and Wiliam (2003), there is need "to align formative and summative work in new overall *systems*, so that teachers' formative work would

not be undermined by summative pressures, and indeed, so that summative requirements might be better served by taking full advantage of improvements in teachers' assessment work" (Black &Wiliam 2003, pp623-4). The alignment of formative – summative assessment is important so that formative work can feed into summative work and summative work can be used formatively. This way, explicit monitoring of student progress is facilitated both by formative assessment practices as well as by summative work.

Many authors have dealt with the relationship between formative and summative assessment and the underlying tensions. However, as Briggs (1998, p105) states "Sensible educational models make effective use of both FA [formative assessment] and SA [summative assessment]". Stiggins (2002) makes reference to the importance of both assessment *of* learning [summative] and assessment *for* learning. Although Stiggins may not equate assessment *for* learning to formative assessment, he suggests that assessment *for* learning goes further and it involves the student in the process.

The central component of these new directions in assessment and the new assessment culture that has developed in recent years is that assessment should serve student learning. The student is at the centre of the learning and teaching process. Student learning can be viewed as the interface of formative and summative assessment practices. Teachers should promote student responsibility for assessment as part of the educative process and should guide students to achieving improved outcomes. The ability to understand as well as to present one's own learning is an essential component of lifelong learning and involves a level of self-assessment that can be practised in schools (Wilson & Wing Jan, 1998). Therefore, both formative and summative classroom assessment should play an important part in the learning and teaching process and should be integral to the learning and teaching cycle.

Implications for Victoria

In Victoria, assessment in government schools is considered within the context of major government initiatives in education, current international research and community expectations. Student Learning (Flagship Strategy 1) of the *Blueprint for Government Schools* sets out initiatives that reform curriculum, pedagogy and assessment and reporting in Victorian government schools. Through the *Curriculum Planning Guidelines*, the *Victorian Essential Learning Standards* and the *Principles of Learning and Teaching P-12* assessment is interwoven as an essential element of the learning and teaching process.

Reform of curriculum and pedagogy ought to translate into reform of how student achievement is assessed. Assessing within the context of the *Victorian Essential Learning Standards* and the *Principles of Learning and Teaching P-12* is founded on common understandings of learning theory and its implications for curriculum planning, implementation and pedagogy. The congruence of curriculum, pedagogy and assessment is crucial in enhancing student learning. Assessment processes become integral to learning processes, assist in embedding learning as well as assist in the development of life-long learning skills. Assessment promotes deeper understanding

of knowledge as well as deeper understanding of ways of acquiring knowledge, skills and behaviours. Ultimately, assessment processes assist learners to delve into deeper understandings of concepts and they enhance an integrated understanding of the world.

The essential knowledge, skills and behaviours described in the *Victorian Essential Learning Standards* provide the basis for the development of the person, his or her capacity to acquire not only new knowledge, skills and behaviours, but also develop behaviours that will assist them to lead fulfilling lives in a variety of societal contexts. The development of highly innovative, creative and skilled individuals with life-long learning attitudes is a critical factor for the social, cultural and economic growth of our society. Assessment practices should reflect the nature of the *Standards* by assessing performance in an integrated way.

Accordingly, the Victorian Department of Education and Training's *Assessment Advice* sets out Principles for Assessment and describes three main purposes for assessment. The Assessment Advice is based on current learning theory and reflects the *Victorian Essential Learning Standards* and the *Principles of Learning and Teaching P-12*. It creates a balance between **assessment *of* learning** and **assessment *for* learning** and introduces **assessment *as* learning** which focuses on the student as an active learner able to take control of his or her own learning by monitoring their learning and developing future learning goals.

In this Assessment Advice *assessment is defined as the ongoing process of gathering, analysing and reflecting on evidence to make informed and consistent judgements to improve future student learning.* Assessment can take a retrospective view as well as a prospective view of student learning by revealing what the students know and can do and ways in which they may proceed in their learning.

Principles for Assessment
Substantial research exists on the characteristics of good practice for assessing student learning. This research is summarised in the following set of principles.

- *The primary purpose of assessment is to improve student performance.*
  Good assessment is based on a vision of the kinds of learning we most value for students and how they might best achieve these. It sets out to measure what matters most.

- *Assessment should be based on an understanding of how students learn.*
  Assessment is most effective when it reflects the fact that learning is a complex process that is multi-dimensional, integrated and revealed in student performance over time.

- *Assessment should be an integral component of course design and not something to add afterwards.*
  The teaching and learning elements of each program should be designed in full knowledge of the sorts of assessment students will undertake, and vice versa, so

that students can demonstrate what they have learned and see the results of their efforts.

- *Good assessment provides useful information to report credibly to parents on student achievement.*
  A variety of assessment methods, fit for purpose, provides teachers with evidence of what students know and can do, and their particular strengths and weaknesses. Teachers then can report to parents on how far their child has progressed during the year, where they are compared to the relevant standards, and what the student, the parent and the teacher need do to improve the student's performance.

- *Good assessment requires clarity of purpose, goals, standards and criteria.*
  Assessment works best when it is based on clear statements of purpose and goals for the course, the standards which students are expected to achieve, and the criteria against which we measure success. Assessment criteria in particular need to be understandable and explicit so students know what is expected of them from each assessment they encounter. Staff, students, parents and the community should all be able to see why assessment is being used, and the reasons for choosing each individual form of assessment in its particular context.

- *Good assessment requires a variety of measures.*
  It is generally the case that a single assessment instrument will not tell all we need to know about student achievement and how it can be improved. We, therefore, need to be familiar with a variety of assessment tools so we can match them closely to the type of information we seek.

- *Assessment methods used should be valid, reliable and consistent.*
  Assessment instruments and processes should be chosen which directly measure what they are intended to measure. They should include the possibility of moderation between teachers where practical and appropriate to enhance objectivity and contribute to shared understanding of the judgments that are made.

- *Assessment requires attention to outcomes and processes.*
  Information about the outcomes students have achieved is very important to know where each student ends up, but so too is knowing about their experiences along the way and, in particular, the kind of effort that led to these outcomes.

- *Assessment works best when it is ongoing rather than episodic.*
  Student learning is best fostered when assessment involves a linked series of activities undertaken over time, so that progress is monitored towards the intended course goals and the achievement of relevant standards.

- *Assessment for improved performance involves feedback and reflection.*
  All assessment methods should allow students to receive feedback on their learning and performance so assessment serves as a developmental activity aimed at improving student learning. Assessment should also provide students and staff with opportunities to reflect on both their practice and their learning overall.

Main purposes for assessment

The three main purposes for assessment are described as follows:

- **Assessment *for* learning** occurs when teachers use inferences about student progress to inform their teaching. (*formative*)

- **Assessment *as* learning** occurs when students reflect on and monitor their progress to inform their future learning goals. (*formative*)

- **Assessment *of* learning** occurs when teachers use evidence of student learning to make judgements on student achievement against goals and standards. (*summative*)

Assessment *for* learning integrates assessment into the learning and teaching process and establishes the teacher's role in assessment. Through assessment *for* learning teachers ascertain students' knowledge, perceptions and misconceptions and use this evidence to inform curriculum planning and teaching practice in order to support students to operate at the edge of their competence. Teachers use a range of assessment tools and teaching approaches integrating assessment in the learning and teaching process. Assessment goals are explicit and students are asssisted to understand clearly what they are trying to learn and what is expected of them. Assessment is seen positively as supportive of student learning and assisting students to close the gap between their current achievement and the expected goal. Assessment *for* learning recognises the influence that assessment has on the motivation and self-esteem of students and provides them with constructive feedback. Assessment *for* learning encourages the active involvement of students in their learning and it depends on teachers' diagnostic skills to make it work (Earl 2003).

Assessment *as* learning establishes students' roles and responsibilities in relation to their learning and assessment. It engages students in self- and peer-assessment and promotes students' confidence and self-esteem through an understanding of how they learn. Its focus on student reflection on their learning is powerful in building metacognition and an ability to plan for their own future learning goals. In assessment *as* learning students monitor their learning and use feedback from this monitoring to make adaptations and adjustments to what they understand (Earl 2003). Earl also expresses the view that "effective assessment empowers students to ask reflective questions and consider a range of strategies for learning and acting. Over time, students move forward in their learning when they can use personal knowledge to construct meaning, have skills of self-monitoring to realize that they don't understand something, and have ways of deciding what to do next" (Earl 2003, p25). Assessment *as* learning emphasises the process of learning as it is experienced by the student.

Assessment *of* learning describes the extent to which a student has achieved the learning goals, including the *Standards* and demonstrates what the student knows and can do. Its purpose is summative and gives an "overview of previous learning" (Black 1998, p28). This is the assessment that is used to certify learning for reporting to students, the parents and the system. It takes place usually at the end of a unit, a program, a semester or a year of study. It is based on teacher moderation to ensure

consistent judgement of student achievement and is supported by examples or evidence of student learning. Assessment *of* learning can be used to plan for future learning goals.

Overall a changed assessment culture ought to promote assessment as integral to the learning and teaching process and establish a classroom discourse on assessment that facilitates learning and teaching and promotes self-assessment. The new assessment culture is in line with current learning theories, assessment research and the integrated nature of the *Victorian Essential Learning Standards*. The new assessment culture ought to enhance classroom and school discourse on assessment as well as improve the quality of assessment practices in order to augment student learning and raise overall standards of achievement.

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