

Assessment for Learning: Understanding Teachers' Beliefs and Practices

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Abstract

Assessment for learning in the day-to-day classroom instruction is critical in bringing about students' mastery of 21st century competencies such as learning how to learn, thinking about own thinking and knowing how to plan, monitor and evaluate own thinking and understanding. However, teachers' assessment practices are often influenced by their beliefs about student learning. This study aims to examine teachers' beliefs about student learning and its relationship with their formative assessment practices. Two self-report questionnaires are developed to measure teachers' beliefs about student learning and their formative assessment practices, respectively. Our preliminary findings show that teachers who believe that students are active participants of learning and who acknowledge students' need to evaluate and monitor their own understanding tend to use formative assessment practices such as questioning and eliciting evidences of understanding, formative feedback, peer-self assessment, and clarity of task and success criteria. Semi-structured interview data are used to further deepen our understanding of the various factors that underpin teachers' beliefs about student learning and their formative assessment practices. Three themes emerge from the interview data: teachers' personal interest in developing student learning, belief about feedback and diagnosis of learning needs, and tensions between assessment of learning and assessment for learning.

Keywords: assessment for learning, teachers' beliefs, formative assessment practices, 21st Century competencies, student learning

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Introduction

The most recent recommendations from the Curriculum 2015 (C2015) by the Singapore Ministry of Education have called for assessing students' holistic development of knowledge, skills, values and attitudes. At the primary school level, the Primary Education Review and Implementation (PERI) Committee outlined some guidelines to refine the assessment system at the school level and to urge teachers to treat assessment as an integral part of instruction to support students' learning, that is, a shift of focus from assessment of learning (summative assessment) to assessment for learning (formative assessment). Both C2015 and PERI recommendations are well aligned with the global vision of preparing our students with the essential knowledge, skills, and dispositions for the 21st century workplaces (Partnership for 21st Century Skills, 2009).

The proposed shift in assessment method by PERI is concurred by the assessment literature (Black and Wiliam, 1998; Boud and Falchikov, 2006; OECD, 2005; Shepard, et al., 2005; Stiggins, 2002). Boud and Falchikov (2006) reiterated that assessment ought to contribute positively to the development of knowledge, skills and dispositions for learning beyond the school. An increasingly uncertain future demands that we nurture the child to become a more confident person, a more self-directed learner, a more concerned citizen and an active contributor for Singapore (Ng, 2008).

Formative assessment or assessment for learning can be used to facilitate learning by providing students with the opportunities to judge their own work and learning progress based on feedback to various kinds of teacher-made tests and performance tasks such as student portfolios. A shift in focus from rote learning and the memorization of the content of core subjects to the mastery of higher order thinking skills as well as self-direction skills such as learning how to learn is also driven by the need for 21st century skills, knowledge and competencies.

The notion of learning how to learn and becoming a lifelong learner is to develop students' capacity in assessing their own learning (Boud and Falchikov, 2006). The process of self-assessment based on an explicit set of criteria increases students' responsibility over their own learning and makes the relationship between teacher and student more collaborative (Shepard et al., 2005). Habit of self-assessment results in self-monitoring of performance (Sadler cited in Shepard et al., 2005, p.291) and self-evaluation of own understanding based on explicit criteria and substantive feedback (Klenowski cited in Shepard et al., 2005, p.291). This further develops students' self-regulation and self-direction of their own learning, which are critical skills for lifelong learning in the 21st century knowledge based economy.

However, there is always a tension between formative and summative assessment because high-stakes national examination serve as a mechanism for student placement and tracking. The ministry believes that the national assessment framework continues to maintain high standards and ensure acquisition of strong foundational knowledge. Whilst a performativity culture that comes with an emphasis on high-stakes examinations over the past four decades is unlikely to go away despite the call for change in educational assessment landscape in schools since TSLN (Thinking Schools Learning Nation, Goh, 1997), a shift towards formative assessment and school-based assessments is likely to take place if evidence-based research findings seek to inform policy makers increasingly about the impact and use of formative assessment that would prepare our students for life. OECD (2005) calls for an alignment between high-stakes examinations (summative assessments) and bite-sized forms of assessments (formative assessments) in order to address the tensions between summative assessments used for school accountability in a performativity culture and that of classroom-based formative assessments. The enactment of formative assessment practices requires a change in teachers' beliefs and attitudes towards students and how they learn and make connections as well as the nature of disciplinary knowledge.

Teachers' beliefs about the importance of effort rather than ability in learning (or innate intelligence) play an important role in students' beliefs about themselves (Ames cited in OECD, 2005, p.48). These student beliefs include: intrinsic motivation, self-esteem, academic self-concept, causal

attributions and student learning (Koller, Mischo and Rheniburg cited in OECD, 2005, p.48) that are closely related to their goal setting and tracking of progress in formative assessment. The ultimate goal of formative assessment is to guide students toward the development of their own 'learning to learn' skills or metacognitive or 'control' strategies (OECD, 2005). Students who acquire 'control' strategies are equipped with their own language and tools for learning as well as own strategies for problem solving (OECD, 2005).

Teachers' knowledge of metacognitive strategy enables students to learn 'how to learn skills', that is, to plan, monitor and evaluate their own thinking and understanding through formative assessment. Some of the components of teacher metacognition relating to teaching and assessment practices include teacher knowledge, beliefs, goals and thought processes that are conceptually intertwined (Artzt and Armour-Thomas cited in Hartman, 2001). Teacher knowledge is an integrated system of internalised information required about students, content and pedagogy while beliefs is an integrated system of personalised assumptions about nature of subject, its teaching and learning (Artzt and Armour-Thomas cited in Hartman, 2001). Interaction of the following underpins formative assessment practices in school: teachers' knowledge and beliefs about how students learn and how knowledge is constructed, teachers' formative assessment literacy and their experiences with student success (Guskey, 2002) through formative assessment practices.

Black and Wiliam (1998) identified three crises in the practice of teaching and learning that arise as a result of the absence of formative assessment in the classroom. First, the lack of transfer in learning potentially results from absence of meaning making in learning. Didactic teaching methods (e.g., whole class lecture and initiate-response-evaluate) do little to address children's prior knowledge before a lesson. Second, the overemphasis of mark-giving often leads to self-doubt amongst low achieving students. Some students believe that they are not able to learn as a result of traditional (summative) assessment feedback. The giving of marks and grading functions are often not accompanied by useful advice. Marks are often used to inform student performance relative to others; competition is a resulting implicit outcome. Third, managerial function of assessment may have unintended consequences on collaborative learning. Heterogeneous mix of students with different abilities is reduced as a result of placement and ability tracking because the latter encourages the formation of homogeneous groups based on academic ability. Such ability tracking and grouping can have adverse effects on students' self-esteem and motivation. Stiggins (2002) reiterated that the raising of standards through standardized testing do little to encourage students with already low academic achievement and low self-efficacy to try harder. Whilst accountability through infrequent standardized testing provides information for policy makers and educators to make informed decisions, the student as an active user of assessment information is ignored. Classroom support in the form of formative assessments that are crafted by teachers provide regular if not daily information for the students to plan, monitor and evaluate their own learning. Classroom environments in which students use assessments to understand what success looks like and how to do better, encourage students to attribute academic success to individual effort.

The literature on formative assessment clearly focuses on the benefits and impact of formative assessment or Assessment for Learning (AfL) on student outcomes and attitudes but do not examine in detail teachers' beliefs about student learning and their formative assessment practices. The existing literature also pays scant attention to the socio-cultural factors that may have influenced the processes of classroom interaction as well as the power relations that impinge on teaching, learning and assessment. On an institutional level, formative assessment is sanctioned by MOE through PERI for educational reform at the lower primary level – yet summative assessment still play an important role in upper primary for placement and ability tracking purposes. This tension may undermine the factors that lead to assessment for learning practices in the day-to-day classroom. Teachers' classroom beliefs and practices tend to be influenced by the performativity culture for short-term academic outcomes. There is scant body of research examines teachers' beliefs about student learning and their formative assessment practices.

Purpose of the Study

This study examined teachers' beliefs about student learning and formative assessment practices. The research questions were as follows: (1) What are teachers' beliefs about student learning? (2) What are teachers' formative assessment practices? and (3) How do teachers' beliefs about student learning relate with their formative assessment practices?

If formative assessment or assessment for learning practices in the day-to-day instruction is critical in bringing about students' mastery of 21st century competencies such as learning how to learn, thinking about own thinking, and knowing how to plan, monitor and evaluate own thinking and understanding, changes in teachers' classroom assessment practices are necessary. This is because pedagogical and assessment practices are underpinned by teachers' beliefs and knowledge about student learning. This study served to uncover specific teachers' beliefs about student learning that relate with their formative assessment practices and inform school leaders and policy makers on the need to focus on these beliefs in the intellectual work of change in teachers' classroom assessment practices (Hargreaves, Earl, Moore & Manning, 2001).

Method

A mixed method design was used to examine the relationship between teachers' beliefs about student learning and formative assessment practices. The sample included 98 teachers (59 females and 39 males), mostly from three secondary schools in Singapore: one government school, one autonomous school, and an independent school.

The teachers completed two self-reported questionnaires: teachers' beliefs of how student learn and teachers' formative assessment practices. Teachers' beliefs consisted of three domains: knowledge of student, knowledge of pedagogy and knowledge of students' role in learning. Teachers' assessment practices consisted of five domains: convergent formal summative (semestral exams and common tests), convergent informal summative (revision of past year exam papers), convergent formal formative (student portfolios, criteria referenced grading and matching performance tasks with instruction) and divergent informal formative (questioning, eliciting evidences of understanding-making thinking visible, peer and self assessment as well as clarity of criteria and formative feedback) as well as knowledge of teachers' role in assessment and learning. Responses to each item were scored on a 6-point Likert scale (from strongly disagree to strongly agree) in terms of teachers' beliefs about student learning and a 6-point rating scale (ranging from never to always) in terms of frequency of formative assessment practices.

The semi-structured interview was conducted to one of the participating teachers who have actively used formative assessment in his classroom teaching. The interview was transcribed, coded, and analyzed.

Results and Discussion

The quantitative results showed that teachers who believe that students are active participants of learning are likely to believe that students need to monitor and evaluate their own understanding and learn by knowledge construction. In contrast, teachers who believe the students learn by knowledge dissemination are likely to believe that students are not active participants of learning.

Teachers' use of either formal or informal summative assessment outweighs teachers' formative assessment practices. This is concurred by Black and Wiliam (1998) and other authors in assessment that assessment is used primarily for reporting and placement purposes rather than for feedback and diagnosis of students' learning needs. In formative assessment practices, teachers' use of formal formative assessment such as the use of criteria-referenced grading, the use of assessment results to inform planning of teaching, and the use of student portfolios, is least common. Teachers' use of informal formative assessment such as rich questioning and eliciting of evidences of understanding through making thinking visible, oral and written feedback as well as clarity of task and quality criteria, are more common than formal formative assessment but less than that of

summative assessment. The statistically significant relationships between teachers' formative assessment practices in feedback and clarity of task, feedback and quality criteria are in agreement with Sadler's (1998) notion that feedback needs to be explicitly linked with clear performance and standards that are coupled with strategies for improvement.

Three themes emerged from the interview data: teachers' personal interest in developing student learning, belief about feedback and diagnosis of learning needs, and tensions between assessment of learning and assessment for learning. The data showed that teachers who possess a personal interest in developing student understanding would engage in the following formative assessment practices: dialogue for conceptual clarification, focus on student talk, rich questioning for student thinking, and student thinking made visible by student task and talk. This explains the positive relationship between teachers' beliefs about students as active participants in learning and that of formative assessment practices as in eliciting evidences of understanding, feedback, and clarity of task and quality criteria.

There is no statistically significant positive relationship between teachers' beliefs that students are active participants in learning and their use of peer and self assessment because the teachers believe that students do not recognize the epistemic authority of their peers. This is contrary to Black and Wiliam (1998) who opined that students can assess themselves when there is clarity of criteria and targets. Interactive classroom cultures that encourage interaction such as peer and self assessment (OECD, 2005) is not independent of the feedback from the teacher for *Assessment for Learning* to be effective. The role of peers in setting benchmark and pace in learning as well as in uncovering misconceptions in learning is more useful. The contradictory finding suggests that there is a difference between Asian and Western teachers' beliefs in peer assessment.

Lack of assessment training in formative assessment practices – clarity of task and quality criteria could explain why teachers have difficulty with crafting of descriptors for the respective indicators in the criteria. This means that whilst teachers believe that students need to evaluate and monitor own understanding, they may not be competent to formulate a criteria that is clear and explicit. Torrance and Pryor (2001) concurred that practitioners need an analytic framework that places clarity of task and quality criteria in the core of classroom practice.

Five main factors seem to surface when considering the advocacy for change in teachers' practice towards formative assessment (in decreasing order) are listed as follows: (1) teachers' beliefs about students as active participants in learning, (2) teachers' beliefs about students' need to monitor and evaluate their own understanding, (3) teachers' beliefs about student learning by knowledge construction and (4) teachers' assessment training or literacy and that of (5) teachers' highest educational qualification. This confirms the need for teachers to develop knowledge of metacognitive strategy to continually plan, monitor and evaluate own learning, thinking and teaching (Hartman, 2001).

Conclusion

This is but a preliminary study that needs to take into consideration several other segments of teachers if the findings are to be representative of the population of teachers in Singapore in terms of subject, grade level, and type of school – primary, secondary, government, autonomous, and independent. More studies could be conducted at the level of assessment training in pre-service and in-service courses to ascertain and evaluate the impact of such programmes on teachers' formative assessment practices and efficacy. However, our findings from the preliminary study concur with Guskey (2002) that teachers' formative assessment practices are influenced by their beliefs about student learning and their assessment literacy. These beliefs in turn may relate to their experiences with student success due to formative assessment practices. It is also important to measure the impact of formative assessment practices on student academic performance in terms of learning gains and changes in teachers' attitudes towards formative assessment practices and how they are related to student learning gains. Other factors that account for teachers' formative assessment practices such as teachers' metacognitive awareness about their own teaching could also be examined in view of the

increasing emphasis on self-directed and self-regulated learning as an indispensable 21st century competency.

It is in the interest of policy makers, school leaders and teacher training agencies that professional development must take into account both teachers' assessment literacy and their beliefs about student learning in a performativity culture, if learning how to learn and knowledge of metacognitive strategies to regulate and assess own learning are more than aspirational 21st century outcomes of the curriculum.

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