

Holistic Assessment Implementation in Singapore Primary Schools – Part II: Developing Teacher Assessment Capacity to Improve Student Learning

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Abstract

Research has shown that formative assessment, when used as an integral part of everyday teaching and learning, can have a great impact on student learning. Hence, it is imperative that teachers build their capacity to use formative assessment effectively in the classroom. As this requires teachers to develop new habits of classroom assessment, capacity building has to support them in both the acquisition of knowledge (assessment literacy), and the translation of knowledge into consistent, high quality practice (assessment competency).

To sustain the implementation of Holistic Assessment beyond its Roll-out Phase, a capacity building model was developed to further enhance teachers' assessment literacy and competency. In 2013, the model was piloted in 72 primary schools, involving more than 1,000 teachers. This paper discusses the capacity building model that provides a structured approach for teachers to learn collaboratively, practise in the classroom and engage in peer observation and feedback. The paper will also present preliminary findings on the impact on teachers and students after the first year of piloting.

Key Words

PERI, Holistic Assessment, Formative Assessment, Teacher Learning Communities,
Assessment Literacy, Assessment Competency

Introduction

In October 2008, the Ministry of Education, Singapore (MOE), appointed the Primary Education Review and Implementation (PERI) Committee to study and recommend the priorities, programmes and resources needed to bring primary education to the next level. In March 2009, the PERI Committee made a series of recommendations to provide students a more holistic education and prepare them for the future. One key recommendation is to balance the acquisition of knowledge with the development of skills and values, through engaging pedagogy, a stronger emphasis on non-academic aspects within the curriculum and more holistic assessment to support learning (MOE, 2009).

Holistic Assessment¹ implementation in primary schools is carried out progressively in three stages: (i) Prototype Phase (2009 – 2010), (ii) Roll-out Phase (2011 – 2013), and (iii) Deepening Phase (2014 – 2016). In 2010, MOE partnered sixteen primary schools to prototype the implementation of Holistic Assessment. The objective was to co-develop assessment resources and practices and to use the experience and knowledge gained to facilitate Holistic Assessment implementation across all primary schools. During the Roll-out Phase, the remaining primary schools in Singapore embarked on Holistic Assessment to implement its core features. In the Deepening Phase, implementation focuses on enhancing teachers' assessment competency and raising the quality of assessment in tandem with pedagogy and curriculum changes.

To improve and support student learning and development, in addition to acquiring knowledge of quality classroom assessment principles and strategies (assessment literacy), teachers also need to strengthen their classroom assessment practices (assessment competency) that have direct impact on student learning (Chappuis et al., 2010). Teachers need to develop new habits of classroom assessment practices that benefit students. This requires an effort for deliberate practice to translate assessment literacy to assessment competency. According to Dylan Wiliam, for changes in classroom practices to be effective, “what is needed are ways to support teachers to reflect on their practices in systematic ways, to build on their accessible knowledge base and, perhaps most importantly, to learn from mistakes” (2009, p. 17). To help teachers develop and hone their professional skills, knowledge acquisition has to be practical and ongoing support that is just-in-time and job-embedded is needed.

This paper discusses the capacity building model developed to support primary school teachers in Singapore to develop their assessment literacy and competency to sustain the implementation of Holistic Assessment beyond its Roll-out Phase. The paper will also present the preliminary findings on the impact on teachers and students after the first year of piloting in 2013 and lessons learnt.

A Capacity Building Model to Enhance Teachers' Assessment Competency

Research has shown that the use of formative assessment as an integral part of everyday teaching and learning in the classroom brings about the greatest impact on student learning (Black & Wiliam, 1998). Wiliam (2011) identified five key formative assessment strategies

¹ Holistic Assessment is the ongoing gathering of information on the different facets of a child from various sources, with the aim of providing feedback to support and guide the child's development.

(Figure 1) that teachers can make use of in the classroom to identify the learning needs of the students and adapt instruction in real time.

Figure 1: Five Key Formative Assessment Strategies

	Where the learner is going	Where the learner is right now	How to get there
Teacher	Clarifying and sharing learning intentions and criteria for success	Engineering effective classroom discussions, activities and tasks that elicit evidence of learning	Providing feedback that moves learners forward
Peer	Understanding and sharing learning intentions and criteria for success	Activating students as instructional resources for one another	
Learner	Understanding learning intentions and criteria for success	Activating students as the owners of their own learning	

Source: Wiliam (2011)

To help teachers develop knowledge and make more effective use of the formative assessment strategies in the classroom, a capacity building model was developed with reference to the logic model for the “Keeping Learning on Track™” professional development package (as cited in Wiliam, 2009, p. 32). The capacity building model developed comprises the following three components:

- Component 1: Building a sound fundamental understanding of formative assessment;
- Component 2: A learning process in which teachers learn collaboratively in Teacher Learning Communities (TLC), practise in the classroom and give one another peer feedback to improve practices; and
- Component 3: Ongoing support from MOE, school, and peers.

In the first year, 72 primary schools volunteered to pilot this capacity building model. A total of 142 TLC focusing on formative assessment were formed, involving 1,350 teachers.

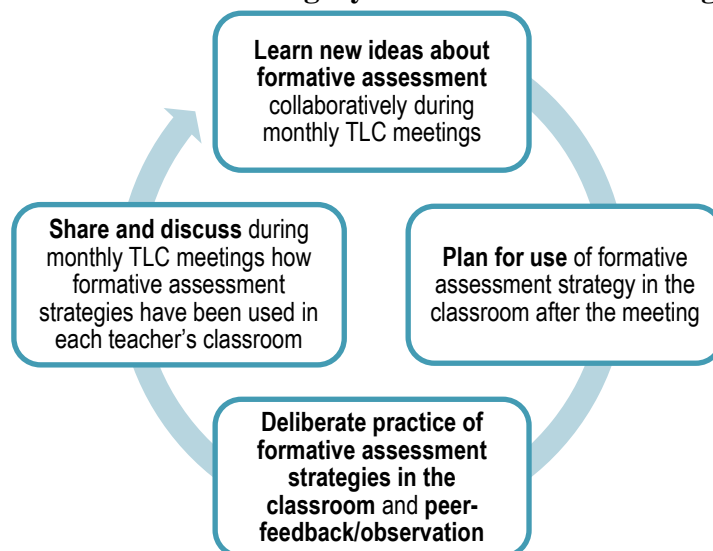
Component 1: Building a sound fundamental understanding of formative assessment

All teachers went through a short learning module in their TLC that provided them with the research basis and theoretical framework of formative assessment. This enabled all teachers involved to start off with a sound understanding of formative assessment, and discuss formative assessment using the same vocabulary and language. This was necessary at the beginning, before teachers embarked on collaborative learning and peer feedback in their TLC as teacher professional development that is designed to build solely on the combined knowledge and skills of teachers may sometimes result in “shared ignorance” rather than shared knowledge (Guskey & Peterson, 1995).

Component 2: A learning process in which teachers learn collaboratively in teacher learning communities (TLC), practise in the classroom and give one another peer feedback to improve practices

Upon gaining a fundamental understanding of formative assessment, teachers engaged in a reiterative learning cycle (Figure 2). Teachers developed their knowledge about formative assessment by engaging in collaborative learning during monthly TLC meetings (self-facilitated workshops), using *Embedding Formative Assessment: A Professional Development Pack for Schools* (Leahy & Wiliam, 2010) as the main resource. They then planned to put the new knowledge gained into practice in the classroom. Between meetings, the teachers tried out formative assessment strategies and techniques of their choice, and engaged in peer observation and feedback to support one another in learning. At the following TLC meeting, each teacher shared what he or she had tried out in the classroom and how it had impacted student learning. The rest of the teachers in the TLC would provide feedback and suggestions for refinement (Wiliam, 2009, pp. 23–29). Such a learning cycle puts in place learning activities and just-in-time and job-embedded follow-up, which experts have identified to be important in helping teachers make changes to what they do in the classroom (Chappuis, 2007; Guskey & Kwang, 2009).

Figure 2: The Reiterative Learning Cycle in a Teacher Learning Community²



A distinct characteristic of how teachers learn in this model is its consistency. The entire learning process and the format of the monthly TLC meetings do not change. Wiliam (2009) advocates putting in place a “signature pedagogy” for all TLC meetings so that teachers will be familiar with how they are going to learn. This enables them to concentrate on learning instead of constantly having to adapt to new structures and activities.

Component 3: Ongoing support from MOE, school, and peers

MOE supported schools and teachers on board by providing access to knowledge and expertise, as well as the necessary resources teachers needed to learn effectively. Open channels of communication were maintained between schools and MOE so that teachers could seek just-in-time clarifications about assessment and feedback on how learning was

² Adapted from *Assessment for Learning: Why, What and How?* (pp. 23–29) by Wiliam, D. (2009)

organised and facilitated in the TLC. In addition, regular inter-school Network Sessions were organised to support TLC teacher-leaders, enabling them to better facilitate collaborative learning during TLC meetings. During these Network Sessions, TLC leaders from different schools met to share the progress of their TLC, provide feedback to one another, reflect and plan forward. This not only enabled them to improve their TLC leadership, but also set up a network of TLC leaders for peer support.

Every teacher in the TLC was provided with a resource kit containing all materials³ needed for learning throughout the year. Other resources such as learning videos were co-developed with schools. These videos showed how teachers were using formative assessment in local classrooms and how teachers were engaging in collaborative learning in TLC.

Schools played an important role in supporting teacher learning on formative assessment. They set the direction by identifying improving student learning as a key focus. They also created a safe and conducive learning environment that allowed open sharing and experimentation. In addition, time and space had to be set aside for teachers to meet, engage in peer observation, dialogue and plan for classroom instruction. Peer support among teachers was also a critical aspect to enable effective learning. This came in the form of the collegial support teachers provided to one another by taking on the role of a critical friend to give feedback to refine their practices.

Observations and Preliminary Findings

William (2012) pointed out that time is needed for impacts on student achievement to be observed. Therefore, increased student achievement is a “lagging indicator of success” of a TLC. He identified other indicators of success, which he termed as “leading indicators of success”, that could be used to consider if teacher learning in formative assessment has been effective in the shorter term. These leading indicators of success include:

- teachers being given time to meet, and doing so;
- teachers increasingly acting as “critical friends” to other teachers;
- increasing prevalence of classroom formative assessment practices;
- students being more engaged in classrooms;
- teachers modifying the techniques in appropriate ways, indicating an understanding of the underlying theory; and
- a shift in the ownership of the reform.

Information was gathered from various sources on how the capacity building model and the use of formative assessment had impacted teachers’ classroom practices and students’ learning and motivation. These included teachers’ reflection logs, TLC leaders’ sharing during inter-school Network Sessions, and dialogues, discussions and feedback sessions with TLC from several schools. In the first year of piloting, feedback was generally positive and many leading indicators of success were observed.

³ Materials provided include: *Embedding Formative Assessment: A Professional Development Pack for Schools* (Leahy & William, 2010); *Embedded Formative Assessment* (William, 2011); and resources developed by MOE, such as a learning module that gives an introduction to formative assessment, and a brochure, *TLC-FA At-a-Glance*.

Impact on Teachers

The capacity building model provided the structure required for teachers to set aside time to learn about formative assessment on a regular basis. Teachers found that through the learning segment in every meeting, they had built a repertoire of formative assessment techniques that they could apply in the classroom. As a result, many teachers shared that they were making more use of formative assessment to support teaching and learning in their classroom.

In particular, teachers commented that they were doing the following more frequently: helping their students to understand the learning intentions of each lesson or unit; using questions to elicit reasons and explanations (rather than just factual knowledge) from their students; and valuing errors made by their students because they revealed how their students thought. Teachers shared that using formative assessment to do regular checks on their students' learning had allowed them to adjust their teaching to close learning gaps and correct misconceptions in a timely manner.

I am now asking more effective questions to elicit evidence of learning from my students. The use of questioning techniques will allow me to know if my students can understand my lesson. If they have difficulty in understanding, I can then adjust my pace and teaching to meet their needs.

Ms Grace Chan, Balestier Hill Primary School

After going through several TLC meetings, I am exposed to a wider variety of formative assessment techniques which I can use in my classroom... I am able to "tweak" [the formative assessment techniques] to be used in either English or Mathematics lessons. I now take time during lessons to check for my students' understanding using formative assessment. I realise the importance of giving feedback effectively and promptly to help my students improve.

Mr Mohamad Izhar Bin Ramlan, Mayflower Primary School

I came to realise that rigid remembering of content and methods did not reflect the children's understanding of the topic/subject. It is through daily practices of encouraging children to think of why and how they derive at the answer that I can assess whether the children have understood the topic taught. This will also allow me to correct their wrong understanding of the concept.

Miss Amanda Lee, Fernvale Primary School

The capacity building model also provided opportunities for teachers to develop their assessment competency through ongoing collaborative learning and peer feedback. Teachers reported that they were spending more time observing their peers' lessons, sharing experiences and providing feedback and suggestions to one another on their classroom assessment practices. They had also started to take greater ownership of their own professional development. As a result, they became more reflective and were constantly making improvements to their own classroom assessment practices, so as to enhance their students' learning and engagement.

Teachers gave positive feedback on the use of various strategies on formative assessment. As each member gave valuable views on the techniques they had used in the classroom, other members were reflective and showed great enthusiasm to try the technique shared.

Mdm Fitri and Mdm Rubiah, TLC Leaders, Fuchun Primary School

The members had an in-depth discussion in today's TLC meeting. Some of them shared on... techniques such as the use of ABCD cards and "No hands up – except to ask a question" that they had tried out in their classes and they commented that these techniques really enabled them to have a better understanding of their students' strengths and areas of weaknesses. The discussion on the techniques of providing feedback was also enriching as some of the members questioned and reflected on the effectiveness and feasibility of employing such techniques.

Mrs Sangeetha Siva, TLC Leader, Da Qiao Primary School

Impact on Students

Teachers also reported that they noticed improvements in their students' learning and motivation since they started to consciously use formative assessment strategies in the classroom. Teachers commented that their students (i) were more engaged during lessons and participated more actively in class; (ii) were better able to support one another and took responsibility for their own learning; and (iii) were able to act on feedback from teachers and peers to improve on their assignments.

My students were more engaged during the lessons. By using the mini whiteboard (a formative assessment technique), my students realised that all of them had to participate in the lesson... When I go through the common mistakes or misconceptions with my pupils, they will now pay attention... [and try] to spot their own mistakes. As a result [of using formative assessment in the classroom], my students are starting to take ownership of their own learning and to provide peer support to one another.

Mdm Sharon Chan, Ahmad Ibrahim Primary School

My students are now looking forward to learning each day. I also notice that the students are more engaged and some of my students have started to take ownership of their learning. They have started to do self-reflection and assessment after completing tasks such as Show-and-Tell and writing. They have also started to pay more attention to their friends when doing Show-and-Tell, so as to provide feedback to their peers. I have also set aside time for my students to conduct post-presentation conferencing with each other.

Mdm Liew Hwee Hong, Telok Kurau Primary School

After embarking on TLC, I find myself giving more descriptive and specific feedback to the students, rather than just giving feedback like "good job" or "well done". For example, for this piece of artwork, I told the student that I liked the colours used, and some suggestions I gave her were to draw bigger flowers to fill up the empty spaces so that it is more colourful. [After receiving the feedback I gave her], she actually worked on the suggestions given to improve her artwork.

Mdm Hazel Cheong, Anchor Green Primary School

Lessons Learnt

One key success factor of the capacity building model in sustaining teacher learning in formative assessment was the pervasive sense of efficacy among the teachers. In addition to learning theories and research on formative assessment, teachers also learnt a set of practical strategies and techniques that they found simple to understand, adapt and use to support their students in learning. This encouraged them to actively try out in their classrooms what they had learnt during TLC meetings. There were also opportunities for teachers to find out about their peers' experiences through peer observation and feedback, as well as sharing during TLC meetings and the inter-school Network Sessions. Through these experiences, teachers realised that the changes that they were making to their classroom practices were not only meaningful, but also feasible and manageable. As a result, they were motivated to continue working on honing their practice, despite the challenges that arise during the process of changing habits.

Feedback from teachers highlighted the importance of school support to enable them to learn effectively. It was observed that when time and space was set aside for teachers to meet regularly and engage in peer observation and feedback, they were able to sustain the momentum of learning and making improvements. As a result, these teachers were more successful at achieving the goal of making positive changes to their practice. On top of that, teachers also emphasised the need for schools to create a safe and open culture that encouraged candid sharing of experiences. An open culture enabled richer learning as teachers felt that they learnt not only from success stories, but also challenges faced by themselves and their peers.

Initially, it was observed that some teachers, when starting to try out using formative assessment in the classroom, were more focused on operationalising the techniques, and less so on using the assessment information gathered to feed learning forward. They were also placing greater emphasis on using a variety of assessment techniques than on identifying and honing the use of the techniques that were most suitable for their lessons and students. Wiliam described this as having "lots of formative intention... [but] very little formative action" (Leahy & Wiliam, 2010). Hence, it is important to constantly remind teachers of the one big idea of formative assessment – "evidence about learning is used to adjust instruction to better meet student needs" (Wiliam, 2011, p. 46). To support one another in focusing on this big idea, teachers should be encouraged to take on the role of the challenger when giving feedback to one another, and to ask questions that can help align the focus of learning and reflection, such as "What did you do with the information collected?", "How did this alter your teaching?" and "How did this benefit student learning?" (Leahy & Wiliam, 2010).

Conclusion

The capacity building model piloted for the Deepening Phase of Holistic Assessment implementation has helped teachers to develop their assessment literacy and competency in a sustainable and structured manner. Teachers from the pilot schools found the content of learning relevant and meaningful. They also found the process effective in helping them to think about their classroom assessment practices critically and to make refinements to better support their students in learning.

In 2014, the number of schools that have decided to adopt this model to sustain teacher learning in formative assessment has increased from 72 to 125, and the number of teachers involved increased from 1,350 to 3,300. As the capacity building model scales up to involve more schools and teachers, MOE will need to place more emphasis on the depth, sustainability, spread and shift of ownership of the implementation (Coburn, 2003). With Holistic Assessment implementation in the Deepening Phase, MOE will continue to work closely with schools to support teachers in honing their classroom formative assessment practice to improve student learning and motivation.

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