

# Formative assessment in the middle years: A review of literature and alignment with the Guiding Principles for Junior Secondary

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## Abstract

With the continued national and international focus and demand for data-driven and evidence-based practice in schools, middle years teachers are looking for tools that will help pave the way for successful learning for their students. In Queensland, Australia this is particularly important due to a recent educational reform which saw Year 7 (aged 12-13 years) incorporated into high school. Evidence suggests students in this age group often disengage from learning, consequently increasing the importance of developing techniques that will provide middle years students with tailored and adequate educational support such as through formative assessment practices. This article provides a comprehensive review of the literature on formative assessment as a pedagogical model that engages adolescent students with school and learning. As such, a number of formative assessment models are presented. These models provide teachers with signature practices and opportunities to gain relevant and timely information about students' learning progression, informing their teaching practices and lesson planning. The paper will then align effective formative assessment practices with the junior secondary *Guiding Principles*. Implications for future practice are offered which aim to support middle years teachers' important work in improving student learning outcomes.

Keywords: formative assessment, middle years, junior secondary, guiding principles

## Introduction

Assessment for improved learning has been a key priority and focus of policy makers and educational forums both internationally and nationally (Masters, 2014; Yee, 2016). For example, the Queensland Department of Education in Australia has increasingly emphasised the importance of data-driven instruction and has worked to ensure that teachers are adequately meeting the learning needs of all students through quality assessment practices (DET, 2016b). Such assessment practices are critical for students in the middle years given this unique development phase. In 2015, Queensland introduced a junior secondary reform with Year 7 moving from primary to secondary school (Pendergast, Main, Barton, Kanasa, Geelan, & Dowden, 2015). Ensuring the success and smooth transition of these students has become a priority for policy and practice. To address middle years' students' needs, it is vital to understand where every student is in their individual learning journey rather than just at the

end (Humphrey & McNaught, 2015). One such way to ensure success through the learning journey for middle years students is the effective use of formative assessment.

Formative assessment is a process by which teachers gather evidence for the purpose of improving student learning (Yee, 2016). Evidence gathered by formative assessment provides both teachers and students with ongoing, real time information that guides and informs student learning as well as teaching instruction (Smith, 2011). It is a continuing cyclic process which informs teaching practice and supports students' active engagement in learning through the identification of appropriate next steps and how to implement them; ensuring progression in learning for every student (Heritage, Kim, Vendlinski, & Herman, 2009). Formative assessment regulates teaching and learning, warranting learning with understanding, by providing feedback to both teacher and student (Hattie & Timperley, 2007).

Formative assessment is crucial in enabling teachers to identify where students are at the different stages of their learning (Wyatt-Smith, Adie, van der Kleij, & Cumming, 2017). Furthermore, formative assessment enables teachers to continually monitor and address the learning needs of students as soon as these needs arise. As such, we argue the implementation of effective formative assessment will enable and facilitate the success of the junior secondary reform.

Back in 2008, the Middle Years of Schooling Association (MYSA) developed a model that acknowledged the importance of people, practices and places in the success of young people's education (MYSA, 2008). Effective and quality teaching; future learning; community, wellbeing and belonging; and recognising the distinct needs of middle years learners were at the core of this model (MYSA, 2008). In Queensland, the renewed focus on the importance of the middle years phase of learning is reflected in the junior secondary reform; encompassing students from Years 7 to 9. The reform recognises these years as a distinct phase of schooling with particular features, challenges and opportunities associated with early adolescence (DET, 2016a). It is clear that the middle years of schooling represents a crucial developmental phase in the teaching and learning of young adolescents (Pendergast, 2017).

Research identifies the ages of 10 to 15 years as a time when children develop and grow more rapidly than any other developmental stage, specifically cognitively (Barratt, 1998). Therefore, it is crucial to be cognisant of students' learning needs through formative

assessment. It is important that teachers encourage student development of new skills and proficiencies, emphasising proof of understanding behind their work and learning from mistakes, through effective formative assessment practices (Wiliam, 2013).

The highly individual nature of each learner demands a student-centred approach to teaching and learning across the junior secondary years to ensure all students are productively engaged in learning. Formative assessment practices offer the foundational bases for a student-centred approach to teaching and learning in the junior secondary phase. It engages students in reviewing their performance and planning for future success, which contributes to a student's social, emotional and personal wellbeing (Garrison & Ehringhaus, 2014).

This paper therefore provides a comprehensive review of the literature on the topic of formative assessment and also how it applies in the middle years phase of schooling. It provides a number of models of formative assessment that can be effectively used in the classroom. The paper then argues the critical importance of effective formative assessment practices, particularly in the Queensland context by aligning the models with the *Junior Secondary Six Guiding Principles* (DET, 2016c). Recommendations for teachers' practices are also suggested.

### **A comprehensive review of the literature on formative assessment**

Formative assessment is an integral part of the teaching and learning process, it involves both teacher and student active involvement in the learning cycle (Heritage, 2010). The importance of formative assessment and its implication on teaching practices has been noted to be particularly crucial for middle years students (Garrison & Ehringhaus, 2014; Organisation for Economic Cooperation and Development [OECD], 2005). In fact, much research exists internationally and nationally supports the importance of effective formative assessment practices (Duckor & Holmberg, 2017; Heritage, 2010; Wiliam, 2010).

In earlier research a lack of clarity about what formative assessment is and how to use it existed (Harlen, 2007). Later, Wylie and Lyon (2015) still acknowledged some confusion around what formative assessment actually was. This made it difficult for teachers to embrace formative assessment, and it created barriers for school leaders seeking to support effective implementation within their own school contexts (Wylie & Lyon, 2015). It is therefore crucial to support teachers and school leaders to develop a conceptual understanding of

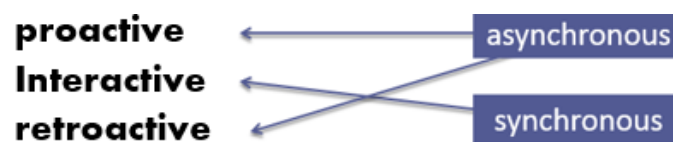
formative assessment in order to develop a schema for effective implementation of formative assessment.

### ***Models of Formative Assessment***

There are number of proposed formative assessment models revealed in the research literature. These include those developed by the OECD’s Centre for Educational Research and Innovation (CERI) (OECD, 2005). One particular study by CERI examined exemplary practice in secondary schools in eight countries. It identified six key elements for effective formative assessment. These are:

1. Establishment of a classroom culture that promotes interaction and the use of assessment tools;
2. Establishment of learning goals, and tracking of individual students’ achievement toward those goals;
3. Use of a variety of instructional strategies to meet diverse students’ learning needs;
4. Use of different approaches to assess students understanding;
5. Feedback on students’ performance and adaptation of instruction to meet identified needs; and
6. Active involvement of students in the learning process. (p. 6)

Wiliam (2010) proposed a conceptual framework for formative assessment, where he believed that formative assessment is concerned with the creation of, and capitalisation upon ‘moments of contingency’ in the regulation of learning (p. 2). He explained that formative assessment provides these moments of contingency in instruction-where teachers, students and/or peers collect evidence about students’ achievement to make decisions about the next step. Wiliam (2010) categorised moments of contingency into synchronous moments, where there is interaction of communication between the teacher and the student; and asynchronous moments, where evidence of students’ performance is gathered and utilised to provide students with feedback and/or modify the learning instructions as displayed in Figure 1.



**Figure 1: The kind of regulation within the synchronous and asynchronous moments (Wiliam, 2010)**

Wiliam’s (2010) ‘moments of contingency’ highlights the importance of teachers addressing and acting on the information collected by adjusting instruction and providing students with immediate feedback. It also points to the different types of assessment including long, medium and short cycles; emphasising the proactive role of the short cycle.

Similarly, and drawing on Ramaprasad (1983), three key processes in learning and teaching of establishing where the learners are in their learning, where they are going, and what needs to be done to get them there, Wiliam and Thompson (2008) suggested a framework to conceptualise formative assessment. They acknowledged the roles of the teacher, the learners and their peers. The framework consisted of five key practices:

1. clarifying and sharing learning intentions and criteria for success
2. engineering effective classroom discussions and other learning tasks that elicit evidence of student understanding
3. providing feedback that moves learners forward
4. activating students as instructional resources for one another and
5. activating students as the owner of their own learning. (p.57)

This framework is significant because it offers a comprehensive model that reflects the dynamic relationship between teachers and students. It highlights the important role of teachers to engineer effective practices, and emphasises how students are responsible for their own learning and how to put feedback into action. In doing so, this framework also identifies the pedagogical practices that allow this practice to occur. Figure 2 shows the roles involved and the types of strategies required.

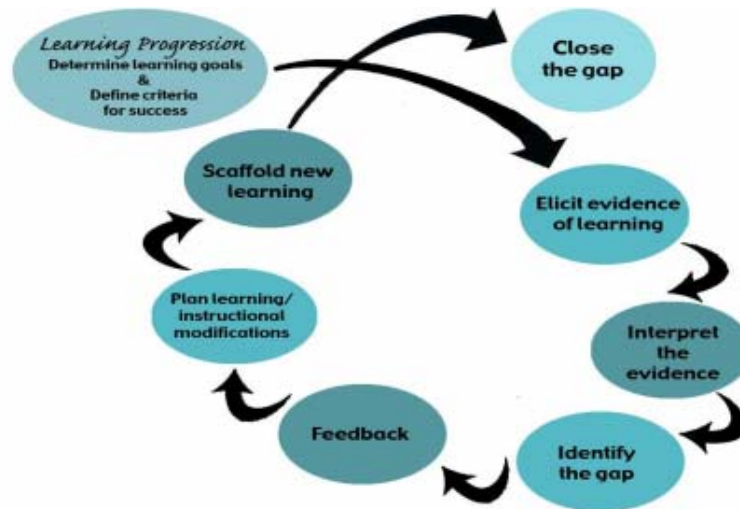
	Where the learner is going	Where the learner is	How to get there
<b>Teacher</b>	Clarifying, sharing and understanding learning intentions	Engineering effective discussions, tasks, and activities that elicit evidence of learning	Providing feedback that moves learners forward
<b>Peer</b>		Activating students as learning resources for one another	
<b>Learner</b>		Activating students as owners of their own learning	

**Figure 2: The elements of formative assessment model (Wiliam & Thompson, 2008)**

In 2007, Heritage introduced a model of the formative assessment process, where she congregated the attributes of formative assessment (see Figure 3). According to Heritage et al. (2009) formative assessment is a process that comprises four main rudiments. These are:

1. Identifying gaps in students' learning;
2. Deciding where students are in their learning and what they need to learn;

3. Adjusting instructions to address individual students' learning needs, and
4. Supporting them towards achieving their learning goals. (p. 2)



**Figure 3: Heritage's Formative Assessment Model (2010)**

Both models (Figures 2 and 3) include the process of feedback. Teachers' use of descriptive feedback helps students improve learning and closes the learning and instructional gap. It helps students to be involved in their own learning as they reflect on their learning (Hattie & Timperley, 2007). Formative assessment provides students with the opportunity to practise and be corrected during the learning process. Additionally, formative assessment breaks down a larger learning objective into smaller sub-learning objectives. This helps teachers to consistently monitor students' learning to ensure mastery of the set of skills needed to achieve the learning objective (Popham, 2008).

Similarly, Alvarez, Ananda, Walqui, Sato, and Rabinowitz (2014) proposed six guiding principles for effective formative assessment, they explained that effective formative assessment:

1. Promotes students' learning through continually monitoring students' progress;
2. Elicits evidence of learning through a variety of tasks depending on the instructional purpose
3. Changes the roles of teachers and students where the teacher are focused on creating a supportive learning environment in which the students are at the centre of teaching and learning;
4. Uses learning progression to anchor learning goals and monitor learning;
5. Results in meaningful feedback and adjustments to improve instruction for students; and
6. Enables students to become self-regulated and autonomous learners. (p. 12)

These guiding rudiments have the potential to offer educators clear guidelines that inform their understanding of formative assessment and therefore teaching practice.

### **Comparing models of formative assessment**

As can be seen, the above models have a number of similarities. They outline how formative assessment puts emphasis on learning through the feedback loop process.

The key elements presented by the different frameworks explored here, specifically those proposed by Wiliam and Thompson (2008), address the needs of young adolescents, through enabling teachers to lay the foundations that cultivate lifelong, self-directed learning, and prepare students for the 21<sup>st</sup> century. The key practices proposed by Alvarez et al. (2014), the OECD (2005), and Wiliam and Thompson (2008) provide an interpretation of educational aims, such as ‘personalisation of learning’ and ‘inclusion’, reflecting the spirit of the junior secondary initiative. The frameworks offers pedagogies for engagement and provide a number of signifying practices that guide the effective use of formative assessment ensuring students’ learning needs are met.

**Table 1: Outline of key studies on formative assessment**

Study	Centre for Educational Research and Innovation (CERI) (OECD, 2005)	Alvarez et al. (2014)	Wiliam (2010) and Black, Harrison, Lee, Marshall and Wiliam (2003)
<b>Characteristics</b>	<p>examined exemplary practice in secondary schools in eight countries has identified six key elements for effective formative assessment;</p> <ul style="list-style-type: none"> <li>a) establishment of a classroom culture that promotes interaction and the use of assessment tools</li> <li>b) establishment of learning goals, and tracking of individual students achievement toward those goals</li> <li>c) use of a variety of instructional strategies to meet diverse students' needs</li> <li>d) use of different approaches to assess students understanding</li> <li>e) feedback on students' performance and adaptation of instruction to meet identified needs</li> </ul>	<p>proposed six guiding principles for effective formative assessment. They explained that effective formative assessment;</p> <ul style="list-style-type: none"> <li>a) promotes students' learning through continually monitoring students' progress</li> <li>b) elicits evidence of learning through a variety of tasks depending on the instructional purpose</li> <li>c) changes the roles of teachers and students where the teacher are focused on creating a supportive learning environment in which the students are at the centre of teaching and learning</li> <li>d) uses learning progression to anchor learning goals and monitor learning</li> <li>e) results in meaningful feedback and adjustments to improve instruction for students</li> <li>f) enables students to become self-regulated and autonomous learners.</li> </ul>	<p>noted that early work on formative assessment was centred around five main evidence-based practices;</p> <ul style="list-style-type: none"> <li>a) sharing success criteria with learners</li> <li>b) classroom questioning</li> <li>c) comment only marking</li> <li>d) peer and self-assessment</li> <li>e) formative use of summative tests</li> </ul>

As it can be seen from these models on formative assessment practices a number of key signature pedagogies are also presented, as highlighted in Table 2.

**Table 2: Overall signature pedagogies in formative assessment**

<b>Studies: Heritage, (2010); Wiliam &amp; Thompson, (2008)</b>
<ul style="list-style-type: none"> <li>• Clarifying and understanding learning intentions and criteria for success</li> <li>• Planned evidence gathering</li> <li>• Adjustments to teaching and learning</li> <li>• Student involvement – peer and self- assessment</li> <li>• Engineering effective classroom discussions, questions and tasks that elicit evidence of learning</li> <li>• Providing feedback that moves learners forward</li> <li>• Activating students as instructional resources for each other, and</li> <li>• Activating students as owners of their own learning</li> </ul>

These suggested signature pedagogies are clearly important for teachers in the middle years as they provide students and teachers opportunities for constructive feedback, for sharing criteria,



and using both peer- and self-assessment. These practices place the student at the centre of the learning process where they are actively engaged through collaboration. Given Australia has a number of guiding principles (DET, 2016c) for effective Junior Secondary pedagogy and practice the paper will now recommend how formative assessment can be implemented in relation to each of the guiding principles and the middle years education in general.

### **Formative assessment a promising practice in the middle years in unleashing learning potential: Recommendations for the six guiding principles**

Transition from primary to secondary school requires students to adjust to the more complex nature of the secondary context, while moving through the most crucial stage in their physiological and psychological development. Dinham and Rowe (2008) indicate that when the wellbeing and learning needs of students are not met, student engagement and performance can decline. As a consequence the Department of Education in Queensland developed the Junior Secondary initiative which is underpinned by six guiding principles (see Table 3). These principles provide the foundation on which schools and teachers can develop strategies, policies and processes that will engage students during these critical years of academic, social, emotional and physical development. The principles also provide an evidence-based approach to teaching and learning practices that meet the needs of students in early adolescence, and support schools to ensure a smoother transition between primary and secondary school (Pendergast et al., 2015).

**Table 3: Junior Secondary Guiding Principles (DET, 2016c)**

Guiding Principle	Explanation
Distinct identity	Junior Secondary students will be encouraged and supported to develop their own group identity within the wider high school. This can involve dedicated school areas and events.
Quality teaching	Teachers working with students in the Junior Secondary years will be given the skills they need through additional professional development, so they can support young teens through these crucial early high school years.
Student wellbeing	We will meet the social and emotional needs of Junior Secondary students with a strong focus on pastoral care. For example, schools could provide a home room to support students as they adjust to new routines and greater academic demands.
Parent and community involvement	We want parents to stay connected with their students' learning when they enter high school. Parent involvement in assemblies, special events, award ceremonies and leadership presentations will be welcomed.

Leadership	Schools will be encouraged to create leadership roles for students in Years 7, 8 and 9. Dedicated teachers experienced with teaching young adolescents will lead Junior Secondary supported by the principal and administration team.
Local decision-making	The needs of each school community will influence how Junior Secondary is implemented in each school.

This discussion takes a closer look at formative assessment as an evidence-based practice and how it aligns with the Junior Secondary Guiding Principles. Additionally, we aim to underline the implications of such an alignment on the practice of junior secondary teachers. Formative assessment provides teachers with excellent support in meeting the needs of young adolescents at this critical juncture in their schooling. It provides them with the strategies that will help develop students' skills to adopt their learning to meet the increasing academic expectations throughout secondary school (Barton & Woolley, 2017).

### **Quality teaching**

The junior secondary agenda identifies the importance of quality teaching by highlighting how it suitably addresses the academic and social needs of young adolescents. Junior Secondary teachers need to ensure their teaching is responsive to the learning needs of early adolescents and is targeted to meet the needs of individual learners. Such can be achieved through assessment that provides instructionally tractable information for contingent teaching and learning (Wyatt-Smith et al., 2017).

Formative assessment is an effective pedagogy that provides teachers and students useful information about an individual's learning that can be used to direct instruction and inform decisions aimed at improving student learning (Hattie, 2005; Heritage, 2010). Heritage (2010) identified learning progression as the first element in her framework that aids in eliciting evidence of learning to better understand where a student is in their learning, where they are going and what needs to be done for a student to achieve said goal. As such, "formative assessment gathers and uses information about students' knowledge and performance to close the gap between students current learning state and the desired state by pedagogical actions" (Shavelson, 2006, p. 3).

Identifying where students are in their learning progression will allow teachers to identify any learning gaps and address these accordingly (Pendergast, 2006). The learning progression within Heritage's (2010) framework enables teachers to breakdown learning into set skills and define the pathways along which students are expected to progress. Subsequently, the model enables teachers to help students by modifying a learning approach that is most suited to each

student and provides the teacher with the relevant information to provide constructive feedback. By using this strategy, teachers can inform their practice while students can inform their learning.

### **Student wellbeing**

Student wellbeing can be defined as “a sustainable state of positive mood and attitude, resilience and satisfaction with self, relationships and experiences at school” (CESE, 2015, p. 2). The key features of formative assessment, as described in the literature, suggest that it takes into account the effects of external social-cognitive factors on the individual’s cognitive response (Heritage, 2010) and it can be identified as a highly qualitative process that focuses on interaction, support, and development (Black & Wiliam, 1998a, 1998b).

Wiliams’ (2013) model puts an emphasis on the importance of students’ involvement in their learning through collaboration, peer assessment and self-assessment. Collaboration allows for the activation of students as instructional resources for one another where they interact with peers to provide and receive feedback on their learning. Importantly, the process allows students to view their learning from different point of views and reach suitable solutions with peers, which develops positive feelings and attitude towards learning, and relationships. Within the different models, the learning goals and success criteria are identified as a key strategy that connects and guides students in their learning. Learning goals and success criteria increase student motivation by providing them with simple yet achievable learning goals against which they can self-evaluate their learning progress. As such, learning goals and success criteria develop students’ wellbeing by building their sense of accomplishment and high level of satisfaction with learning experiences (Leighton, Seitz, Chu, & Gomez, 2016).

Notably, it is important for junior secondary teachers to nurture and support collaborative learning to develop students’ sense of connectedness with their learning and with their peers. Supporting collaborative group, peer feedback and effective goal setting will provide opportunity for students to engage in a meaningful social interactions and cultivate a sense of connectedness to the learning, teacher and peers.

### **Distinct identity**

Formative assessment in its core is responsive to students’ learning needs and represents the self- regulated learning strategies required for students to develop their identities as junior secondary learners (Järvelä, Järvenoja, Malmberg, & Hadwin, 2013). Self-identity is

constructed in response to a number of contextual factors including; family, peers, and school (Rice & Dolgin, 2008). Students' positive experiences in these contexts facilitate the development of positive self-identity. Typical at this stage, students' self-concept and social identity is specifically and strongly influenced by school-related factors such as teachers, learning experiences, teaching strategies, peers relationships and the classroom environment (Gullotta, Adams, & Markstrom-Adams, 2000). As such, formative assessment addresses each student as an individual including their personalised way of learning supporting them in developing a positive sense of self as a junior secondary student.

Wiliam (2013) asserts that when students take an active role in monitoring and regulating their learning the achievement of students is increased which creates a strong sense of self and increase their motivation levels. Similarly, the importance of self-regulation allows students to learn more about themselves as learners and develop the strategies that best allow them to achieve their learning goals (Csikszentmihalyi, 2014). The process of effective formative assessment, if implemented correctly, provides the opportunity to construct a supportive classroom environment and a learning climate that reflects the collaborative partnership amongst teachers and students. Successful teaching practices that respond to the needs of young adolescents along with a strong and positive student-teacher relationship, will allow young adolescent learners to develop positive self-concept and identity within a supportive environment where it is safe to take a risk and learn from mistakes (Giles, 2012).

#### **Parent and community involvement**

Constantino (2008) defines parent and community engagement as the interaction between schools, families and the wider community and the level to which they are involved in their Children's educational lives. There is a growing body of research to show the importance of engaging parents, families and community in learning (Avvisati, Besbas, & Guyon, 2010; Hill & Taylor, 2004; Hill & Tyson, 2009; Tang, 2015). When supported and guided with the right strategies parents can help bring about improved outcomes for their children (Mapp, 2004).

Formative assessment is the pedagogical tool by which schools and teachers can engage parents to play an active role in their children's learning. Involving parents in the formative assessment process is a useful way of engaging with parents on a more purposeful and meaningful level, and has many benefits for students (Moore, Garbacz & Gau, 2016). Sharing students information from formative assessment through regular and open communication

with parents will help them understand the role they can play in helping their children achieve success. When teachers regularly share students' work samples and provide meaningful written feedback, parents will have a better understanding of how they can best support their children. Written feedback can provide parents with a comprehensive view on where their children are in their learning, where they are going, and what needs to be done to get them there (Barton & Woolley, 2017).

Notably, when parents engage with their children's learning, it provides an opportunity for a dialogue between parents and children about the learning. Putting the emphasis on learning and building students' motivation for learning also improves cognitive and social attributes (Gonida & Urdan, 2007). Additionally, parents' engagement allows teachers to develop deeper understanding of individual students' cultural and community backgrounds to support them in building healthy identity and connect with students in a meaningful and effective ways (Cooper, Jackson, Nye, & Lindsay, 2001).

### **Leadership**

The Queensland Department of Education (2016c) explains that leadership programs for junior secondary students should contain two key elements: it is service based, and provides students with the skills that will affect their lives beyond the immediate environment of school. Formative assessment practices supports these key elements as it allows both the teacher and the students to identify where they are in their learning progression and identify the skills needed to reach the learning goal as well as provide a trajectory of future learning opportunity (service based) (Heritage et al., 2009).

As Heritage (2010) and Wiliam and Thompson (2008) identified, the first step in the formative assessment process is goal setting. Students' involvement in establishing their learning goal enables them to become challenge seekers rather than challenge avoiders, students become motivated by the process over performance (Meyer, Turner, & Spencer, 1997). Formative assessment has the potential to empower students as it motivates them to learn and have control over their learning (Brookhart, 2013). This enables students to think for themselves and to share their understandings, which liberates them to become the leading and driving force in their own learning.

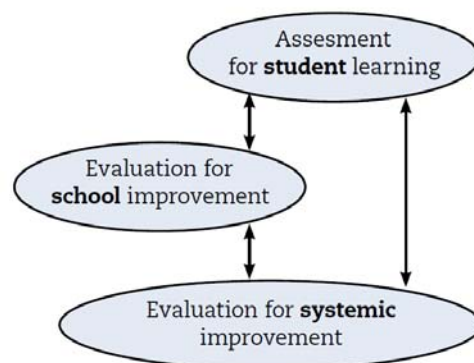
### **Local decision making**

It has been established throughout this review that formative assessment is highly effective in raising students' achievement. To ensure success of every student, teachers and schools need

to implement strategies that will best support their students' learning and help them reach their full learning potential.

All schools ultimately aim to raise student achievement while recognising individual students' differences. If schools and teachers use formative assessment as a pedagogical framework for teaching and learning, it can lead to educational reform. The OECD (2005) indicated that formative assessment improves equity of student outcomes ultimately improving the achievement levels mostly of underachieving students. Schools and teachers using formative assessment promote a culture of evaluation and reflection of practice, they use evidence-based data to evaluate the impact of teaching strategies on students' learning. As such, evidence-based practice provides schools and teachers with the bases for developing pedagogical framework for improvement (Hattie, 2005).

At a local level schools that make a conscious decision to develop a strong evaluation culture, focus on identifying which strategies best address different students' learning needs (Giles, 2012). Schools adopting formative assessment as an educational reform strategy support their teachers to collect information on student understanding and adjust teaching to meet identified learning needs (Duckor & Holmberg, 2017). School leaders then use the information to identify areas of strength and weakness and to develop strategies for a whole school improvement. At the system level, the information collected through monitoring of school performance is used to direct investments in training and support for schools, teachers and to set broad priorities for education as illustrated in Figure 5.



**Figure 4: Coordinated Assessment and Evaluation (OECD, 2005)**

It can be seen that an exploration of each of the guiding principles allows opportunities for appropriate and effective formative assessment methods to enable optimal learning for junior secondary students. Table 4 summarises how the guiding principles align with the critical elements of formative assessment as highlighted in the literature review.

**Table 4: Formative assessment practices alignment to junior secondary six guiding principles**

Guiding Principle	Explanation	Recommended formative assessment practices
Distinct identity	Formative assessment addresses each student as individual and their personalised way of learning supporting them in developing a positive sense of self as a junior secondary student	<ul style="list-style-type: none"> <li>• Students' involvement</li> <li>• Self-assessment</li> <li>• Learning goals</li> </ul>
Quality teaching	The real essence of formative assessment is what the teachers learn about how students learn and how they use the information to decide on the most appropriate instructional strategy.	<ul style="list-style-type: none"> <li>• Learning progression</li> <li>• Identifying gaps</li> <li>• Eliciting evidence of learning</li> </ul>
Student wellbeing	Formative assessment provides opportunities for collaboration and the activation of students as instructional resources for one another where they interact with peers to provide and receive feedback on their learning.	<ul style="list-style-type: none"> <li>• Meaningful feedback</li> <li>• Student involvement (peer &amp; self-assessment)</li> <li>• Activate students as instructional resources for one another</li> <li>• Collaborative group work</li> </ul>
Parent and community involvement	Involving parents in the formative assessment process is a useful way of engaging parents on a more meaningful level. Sharing students information with parents will help them understand the role they can play in helping their children achieve success.	<ul style="list-style-type: none"> <li>• Meaningful written feedback</li> <li>• Work samples</li> <li>• Work Portfolio</li> </ul>
Leadership	Formative assessments focuses on the process of teaching and learning and provides students with the skill of learning how to learn supporting them becoming long life learners and giving them leadership over their learning.	<ul style="list-style-type: none"> <li>• Learning Goals</li> <li>• Success Criteria</li> </ul>
Local decision-making	Schools and teachers using formative assessment promote a culture of evaluation and reflection of practice. The impact of teaching strategies is evaluated and evidence-based practice provides schools and teachers with the bases for developing pedagogical framework for improvement.	<ul style="list-style-type: none"> <li>• Systematic implementation of formative assessment model</li> </ul>

### Implications for future research

It is evident that formative assessment, as an instructional practice, can have a positive impact on students' learning outcomes, particularly in the middle years. Therefore, it is important to ensure that teachers not only gain conceptual understandings of formative assessment but also develop responsive pedagogies to implement formative assessment every day in the classroom effectively.

Harlen (2007) explains that when teachers use formative assessment mechanically without a deep understanding of its meaning or purpose, it could have negative impact. As such, teachers need significant support in developing meaningful formative assessment practices

(Atkin, Coffey, Moorthy, Sato & Thibeault, 2005). This has implications for both policy writers and educators to determine their goal of improving students' performance. Future research agendas therefore should focus on providing teachers with professional learning on formative assessment.

In 2012, Wylie and Lyon identified the need for ongoing formative assessment research to address:

- a) The kind of instructional knowledge teachers need to engage in, interpret and act appropriately on evidence from formative assessment;
- b) The kind of feedback teachers need to improve the quality and frequency of formative assessment; and
- c) How teachers develop routines. (p. 2)

Dunn and Mulvenon (2009) indicated that more research is needed to indicate how formative assessment can assist specific age groups especially within the context of junior secondary students due to the 2015 Year 7 reform. Additionally, it is important for research to investigate how formative assessment can be used as a promising instructional practice for middle years learners since there is limited research into how formative assessment can be used in the junior secondary context.

The Queensland State School Strategy 2016-2020 suggests a concrete direction for educators to employ quality evidence-based practices focused on success for every student. With this imperative, teachers need to be supported in understanding what evidence-based practices look like in the classroom. Only then can assessment fulfil its potential role as the most powerful force in systematic education reform.

## **Conclusion**

In this article, we aimed to explore formative assessment as a promising pedagogical practice for supporting junior secondary students' learning via a comprehensive literature review based on a number of effective models. We have presented four assessment frameworks designed to support teachers in identifying key elements and signature pedagogical practices that will support effective implementation of formative assessment in the junior secondary years. We aligned formative assessment strategies to the *Junior Secondary Six Guiding Principles*. This alignment, we hope, provides teachers the opportunity to adopt the signature



practices of formative assessment and address the unique needs of students in this distinct phase of their learning journey.

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