

Can we bring about change to reflect evidence based practice?

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Introduction

For assessments to be perceived of as valid, reliable and effectively used as diagnostic tools, consideration needs to be given to as to whether they are 'fit for purpose'. Assessment tasks can be fit for one purpose but not all (Newton, 2007). There is a difference in type, need for, and audience of formative and summative approaches to assessment, however, used together these assessment approaches will form a holistic picture of where a student or cohort are at in demonstrating their learning and ability to meet desired and specified learning outcomes.

Across Australia, there is much debate about the appropriateness, desirability and effectiveness of current national assessment tasks and reporting practices. In NSW, the Higher School Certificate (HSC) examination at the end of Year 12 has distinct pros and cons. Nationally, the most controversial assessment task is the summative, multiple-choice based literacy and numeracy testing of students at Years 3, 5, 7 and 9. Whilst these national tests are not explicitly connected to the subjects of the Australian Curriculum suite, the tests are held on the same day, under reportedly the same conditions in each primary and secondary school around Australia. There is also a uniform marking guide and process associated with these tests – the latter three factors are argued to contribute to enhanced validity and reliability of the assessment. The results are then published on the My School website which inevitably leads to public scrutiny and comparisons between schools from various stakeholders. However, this is just one part of the assessment and reporting picture although it is the most sensationalised part in the media.

It is the focus placed on summative assessment approaches – those tasks that occur at the end of a sequence of learning, such as the HSC, the national literacy and numeracy testing or a school based topic test - that have reignited discussion about the place and value of formative assessment – those tasks that occur informally throughout the teaching and learning sequence and provide a feedback loop.

It is within formative assessment approaches that

Assessment for Learning (AfL) sits. AfL is often explained as a process by which teachers inform their practice using information obtained from analysis of and reflection on the extent of progress made by their students. Black, Harrison, Lee, Marshall and William (2004) define AfL as any assessment that firstly seeks to serve the purpose of promoting student learning, secondly provides information that can be used as feedback, and thirdly becomes a formative assessment approach when teachers amend or modify their practice in response to assessment findings.

The purpose of this literature review is to assess the extent to which researchers agree or disagree about the principles of Assessment for Learning in a Geography education context. The principles in question are: the need for effective planning and organisation by the teacher; the provision and quality of feedback; whether AfL is an effective formative assessment strategy; the need for the professional development of staff; the role and importance of self and peer assessment; and the role and importance of student-centred learning and learner autonomy. Throughout the literature review, these principles are not placed in an order of perceived importance.

What is Assessment for Learning (AfL)?

As part of this review, research from Australia, Israel, New Zealand, The Netherlands, the United Kingdom and United States of America has been explored. Authors such as Pat-El, Tillemans, Segers and Vedder (2013) cited the definition about assessment for learning (AfL) put forward by the Assessment Reform Group (2002) from the United Kingdom; "the process of seeking and interpreting evidence for use by learners and their teachers to decide where the learners are in their learning, where they need to go and how best to get there" (cited in Birenbaum, Kimron & Shilton, 2011, p. 36). For the purpose of this literature review, this is the preferred definition. Additionally, many authors, including Dixon, Hawe and Parr (2011), and Cauley and McMillan (2010) also referred extensively to the work of Black, Harrison, Lee, Marshall and William (2004), Black and William (1998), and Sadler (1989) as key reference

points for shaping their findings about whether AfL is considered to be worthwhile assessment practice, i.e., “assessment for learning is important for enhancing student learning and achievement.” (Cooper & Cowie, 2010, p. 979). There is synergy between the perspectives and purpose of AfL by Black et al (2004, 1998), Sadler (1989) and the Assessment Reform Group (2002)

Principle 1: the need for effective planning and organisation by the teacher

Research from the New Zealand based team; Cooper and Cowie (2010) suggested that in order for AfL to be implemented effectively in a Geography education context, time spent by the teacher on planning and organising learning activities using best-practice Geography methodology was required. In the Cooper & Cowie (2010) study, the teacher wanted his Geography teaching to help students develop their critical thinking skills and ability to ask and respond to complex questions. When teacher lesson planning included the provision of time to communicate with students about learning outcomes for the lesson, and when he also provided them with the opportunity to develop marking criteria, it was found that students were better able to demonstrate higher order thinking skills. As a result of better planning, students achieved improved learning outcomes and the teacher's lesson preparation and organisation was deemed more effective. From the teacher's perspective, effective planning facilitated improved judgement about student progress and therefore enabled him to make more appropriate adjustments to teaching and learning programs compared to previously. It also enabled the teacher to respond to research about geography methodology and AfL.

Similarly, a United Kingdom based research team; Mavroudi and Jons (2011) also wanted to ascertain the effectiveness of AfL in a Geography education context through exploring the effects of a teacher putting more time and effort in to planning and organising lessons. Whilst the explicit focus was on providing the opportunity for students to deepen their learning about Geography, which is slightly different to that of Cooper & Cowie (2010), it can be argued that deep learning occurs as a result of critical thinking, and in a Geography context, being able to develop, investigate and respond to geographical questions. The Mavroudi and Jons (2011) study was focused on the author's own Geography class in a higher education context. By ensuring her planning and organisation of lessons included active and inquiry based learning components to the unit of work and assessment task, the different learning needs of the students were catered for;

students extended their learning; she was able to respond to research about Geography methodology and formative assessment. Therefore, deep learning was said to have occurred amongst her students.

There is a close connection between the focus of Cooper and Cowie (2010) and Mavroudi and Jons (2011) research even though their Geography education context is slightly different: critical thinking, school based; and deep understanding, higher education respectively. Consensus was reached between these research teams in response to whether AfL practices were implemented effectively in a Geography education context through more explicit time being spent by the teacher on lesson preparation and organisation.

Principle 2: the role, provision and quality of feedback

Research from Birenbaum, Kimron and Shilton (2011) based in Israel, suggested that in order for AfL to be implemented effectively in a Geography education context, there needs to be opportunities for students to provide feedback to each other about their work and establish how to progress their work. Whilst this is also considered to be peer assessment, Birenbaum, Kimron and Shilton (2011) propose that AfL is improved and becomes most effective in response to 'feedback'. i.e. feedback from teacher-to-student, feedback from student-to-teacher, and also feedback from student-to-student. This research team did not refer to peer assessment as such and they were researching the influence of feedback on AfL practices across a range of subjects from primary to secondary school. Birenbaum, Kimron and Shilton (2011) also discovered that the importance placed on the role, provision and quality of feedback is connected to the emphasis on professional learning and desire to change classroom assessment culture towards formative practice.

Also researching a variety of subjects across a primary and secondary school setting but this time in New Zealand, Dixon, Hawe and Parr (2011) likewise focused on the role, provision and quality of feedback in enhancing AfL practices. Whilst this research was concentrated more towards teacher beliefs about formative assessment approaches rather than the actual provision and use of feedback, there was consensus between the Israeli and New Zealand teams that quality feedback is essential for effective AfL to occur. Additionally, the research from Dixon, Hawe and Parr (2011) found a correlation between teachers who were open to or had already adopted formative assessment approaches and the importance they placed upon providing and using feedback to inform teaching.

Assessment for Learning in the Geography classroom

There are similarities between the two research studies explored above. Overall, consensus was reached about the importance of the role, provision and quality of feedback shaping practice by teachers and therefore being an integral component of AfL in the classroom and across the school.

Principle 3: is AfL an effective formative assessment strategy?

An Australian research team, Thompson, Pilgrim and Oliver (2005) acknowledge initially that a mix of learning approaches is required in order for deep-holistic learning to occur but they do not agree with formative assessments being used as a method for recording 'formal marks'. In their study about the effectiveness of self-assessment and reflective learning being used as a way encouraging more students continue with their study of Geography at University, and become independent learners with well-developed critical thinking skills, Thompson, Pilgrim and Oliver (2005, p. 415) suggested this was "misguided.. and there is little point in developing formative assessment as it encourages students to adopt surface instead of deep approaches to learning." The Australian team propose that self-assessment may be a formative and assessment for learning technique but it is not a worthwhile approach to pursue due to the gap between student perception of their own work and teacher/lecturer perception of their work, thus formative approaches should definitely not be used for formal marks or reporting. It was interesting to note that this team was one of the few who did not reference the work of Black et al (1998, 2004) or Sadler (1989), and they came up with fairly oppositional results about AfL compared to the other research teams.

At the other end of the spectrum was the New Zealand team Dixon, Hawe and Parr (2011). As indicated previously, they were working across subjects in primary and secondary education settings to ascertain what effective AfL looks like. Part of their study indicated that effective AfL in the classroom was focused on quality feedback, another section of their study proposes that effective AfL lies in the fact that it is a formative assessment approach which requires teachers to work collaboratively with students in determining their learning outcomes, activities and assessments. This ties in to the provision of constructive, quality feedback.

There is consensus about AfL being part of formative assessment but the Australian and New Zealand research teams did not reach consensus about formative assessment (including AfL strategies)

being effective. The New Zealanders were very 'for' formative assessment approaches, of which AfL is part; the Australians were against the implementation of formative assessment practices, particularly if they were going to be used as formal marks.

Principle 4: the need for the professional development of staff

There were two New Zealand based research teams, investigating whether effective AfL approaches were related to school culture and the availability and type of professional development for staff. Cooper and Cowie (2010) were researching this in a secondary school based geography education context; Dixon, Hawe and Parr (2011) were looking at this in a primary and secondary context across a range of subjects. Cooper and Cowie (2010) suggest that professional learning takes the form of external providers in a mentoring capacity and through teachers sharing their ideas, practice and reflections within schools. Their research revealed that the effectiveness of professional development depends firstly, on individual teacher beliefs and willingness to change current practice; secondly, on the demands of summative national testing; and thirdly on support and/or permission from school leaders. Somewhat leading on from this, although not by specific design, Dixon, Hawe and Parr (2011) discovered that teachers are the main obstacle to implementing AfL practices. This exemplifies Cooper and Cowie's (2010) findings such as teacher willingness (or not) to change current practice and on support and permission from school leaders to change the culture towards AfL and related professional development opportunities. According to Dixon, Hawe & Parr (2011) within schools that have teachers who are resistant to change, professional learning should be directed towards quality teaching and reflection about the quality of their own practice, as well as the consequences of their beliefs about student learning.

Birenbaum, Kimron and Shilton (2011) from Israel put forward that when professional learning is school based, the school community will often work collaboratively and respectfully to determine and cater for their own learning needs. They also share reflective professional dialogue and work towards assessment becoming inquiry based, therefore heading towards AfL and formative assessment approaches.

Each research team reaches consensus about the importance of professional learning in shaping culture and helping support or change direction towards effective implementation of AfL practices. The Israeli team and Dixon, Hawe and Parr (2011) reach consensus

about the power and effectiveness of collaborative, sharing school based professional learning groups. However, both New Zealand research teams agree that external providers are wanted components to professional learning opportunities about AfL. Cooper and Cowie (2010) clearly state, and Dixon, Hawe and Parr (2011) allude to external providers (such as a university alliance) being desirable for helping schools to promote a pathway towards embedding AfL pedagogy in to classroom practice and therefore working towards changing school culture about 'good' assessment.

Principle 5: the role and importance of self and peer assessment

Both New Zealand based research teams were investigating the importance of self and peer assessment as part of AfL. Cooper and Cowie (2010) saw self and peer assessment being a result of effective teacher planning and organisation. Their research showed that students developed a deeper understanding of the Geography content and skills they were exposed to because they had to assess themselves and work with others to improve their understanding. Similarly, Dixon, Hawe and Parr (2011) found that self and peer assessment was required for students to become expert and autonomous learners. The flip side of this was that the execution of peer and self-assessment in classrooms was dependent on teacher beliefs and congruence between their words and practice. This links back to their findings about feedback discussed at Principle 2. For Dixon, Hawe and Parr (2011), the success of self and peer assessment was also dependent on the receipt of quality feedback.

Research from Australia via Thomson, Pilgrim and Oliver (2005) revealed that in order for students to become independent, deep learners and responsible for their own learning, a trial of a self-assessment tool was required in the lead-up to end of semester assessment and reporting. In this study, first year Geography students at University were provided with a self-assessment schedule for writing a field report based on their findings and experience of a fieldwork unit. This approach was not in common use across the University because of the emphasis on performance marks. Research results found that due to a significant discrepancy between teacher and student assessment of the required task, self-assessment and other similar formative approaches were superficial and inadequate, especially if the marks were to be used as part of formal assessment and reporting procedures.

Although not explicitly referenced in Birenbaum, Kimron and Shilton (2011), the provision and quality of feedback

between students (peer assessment) was found to be important in effective AfL,

There was consensus between all research teams that self-assessment and peer assessment should produce independent, deep learners, however, the Australian research team broke away from the group and based on the results of their research, emphatically did not agree that self-assessment was a useful and effective tool for students, particularly as a reference point for formal reports.

Principle 6: the role and importance of student-centred learning and learner autonomy

Most of the authors had research results related to the importance of student-centred learning and learner autonomy in AfL practices.

The Israeli research team, Birenbaum, Kimron and Shilton (2011) proposed that student centred learning practices were evident in schools that functioned as a professional learning community and did not see teachers as the providers of knowledge. Based on their research, for AfL practices to occur successfully, the classroom culture should be oriented towards self-regulated learning and for errors to be seen as an opportunity to advance knowledge, understanding and skills.

Although in a higher education Geography specific context, Mavroudi and Jons (2011) from the United Kingdom, discovered that the use of information and communication technologies (ICT) in assessment facilitated the development of student centred learning and learner autonomy through active inquiry based learning. This was also because students were confident in their knowledge, understanding and skill in the use of ICT, which surpassed that of their teacher; and the University had the necessary equipment which was underutilised due to lack of knowledge from staff about how to use the video cameras and software programs. The ICT task provided students with the ability to develop their imagination, organisation, communication and critical thinking skills. This relates well to the findings from the Israeli team referenced in the point above.

Dixon, Hawe and Parr (2011) from New Zealand put forward that learner autonomy is an expected outcomes of self and peer assessment. This was further discussed in Principle 5. Whilst the Australian team of Thompson, Pilgrim and Oliver (2005) agreed with this initially, their research revealed that whilst the self-assessment tool encouraged students to monitor

and measure their progress over the fieldwork report tasks, and provided them with the opportunity to have several attempts at the task before submitting a final copy, many students did not appear to take this seriously or fulfil the task to the anticipated outcome.

There was consensus overall between the authors that student centred learning and learner autonomy is the desired outcome of effective AfL but Birenbaum, Kimron and Shilton (2011) differ slightly and suggest this importance is part of a school based professional learning and classroom assessment culture, whilst Dixon, Hawe and Parr (2011) believes student-centred learning and learner autonomy is attributable to self and peer assessment.

Conclusion

Overall, the literature review has revealed a significant degree of consensus about the principles of Assessment for Learning in a Geography education context, from an international perspective. The literature spanned primary, secondary and higher education contexts, predominantly in Geography education but not exclusively. Interestingly, the Australian research team was at odds with the majority of other research teams and I propose this is in part due to the lack of synergy between the reference lists. Across the research, such as that from New Zealand, United Kingdom, United States of America, there were cited references in common although contexts and areas of explicit focus may have differed slightly. In conclusion, it can be deduced that the principles required for the effective implementation of AfL in a geography education context are: the need for effective planning and organisation by the teacher; the need for importance to be placed on the role, provision and quality of feedback; that AfL is an effective formative assessment strategy; the need to build AfL culture through the provision of professional development opportunities for staff; the need for importance to be placed on the role and implementation of self and

peer assessment; and there is a need for importance to be placed on the role of student-centred learning and learner autonomy.

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