

Formative Classrooms Shifting the Focus of Assessment in Higher Education

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Abstract

Over the past decade, as standards-based assessment of student learning has become prominent, ongoing or formative assessment has emerged to the forefront of education and best practices in teaching. The use of formative assessment in classrooms is reaching an all-time high in elementary through high school. However, many in higher education still utilize a more traditional summative assessment so widely used in years past.

Studies are now beginning to show many more productive ways to enhance learning using formative assessment to drive daily instruction. This type of assessment is also referred to as “student-centered,” “ongoing,” or “evidenced-based” assessment. When teachers use formative assessment in the classroom, they themselves become more effective; students become actively engaged; and both become strategic and intentional learners together. The use of formative assessment in higher education is explained and specific examples are provided.

Introduction

“Formative assessment” has been a leading concept for many years now, staying at the top of the list. What makes this approach so unique is that, even though the term is so commonly used, it is most varied in meaning. Some use the term to mean the use of student information to determine instructional techniques, i.e., pre-assessments or other assessments to establish new learning targets. Others use it as a term meaning the use of smaller, less formal assessments to mark achievement along the way and provide information on progress, i.e., smaller, less imperative summative assessments. Yet others use the term to describe daily interactions with students to determine next steps of instruction, i.e., ongoing conversations, anecdotal notes, and the use of student work in progress to provide information to the teacher on how best to move forward to complete the work. While this term has been highly utilized in educational research and dialogue for over a decade now, it still suffers from lack of understanding by educators at all levels, especially those in post secondary education. Additionally, while research is widespread on the use of formative assessment in K–12, it tapers off greatly with use at the University and post secondary educational levels. It is only now in recent years that higher education has begun to shift from a traditional summative focused assessment system to a more authentic formative assessment system.

Formative assessment is defined as university faculty and instructors actively working together with students through daily

interactions, utilizing un-scored assessment tools, to determine next steps of instruction and, thus, setting a student’s plan of action to ensure success.

Background

There are two major types of assessment that instructors use to determine the learning that is occurring in their classrooms—formative and summative. Summative assessment is evaluation of student’s learning and provides a final critique or evaluation of work completed. The assessor evaluates how the student has performed. The student does not typically have a further opportunity to improve. Formative assessment is ongoing evaluation that is not formally critiqued or scored but includes detailed information that is given to the student for the purpose of improving his/her learning.

Formative assessment is the practice of teachers and students actively working together to systematically gather evidence of learning with the intention of continually improving the student’s learning. The primary purpose of formative assessment is to improve student learning, not merely audit it. It is assessment *for* learning rather than assessment *of* learning. Formative assessment is both an instructional tool that teachers and their students use while learning is occurring and an accountability tool to determine if learning has occurred (National Education Association, 2003).

Ainsworth and Viegut (2006) explain that when instructors use formative assessment, they are better able to determine what standards students already know and to what degree; decide what changes in instruction to make so that all students succeed; create appropriate lessons, activities, and groupings; and inform students about their progress to help them set goals. It truly aligns teaching with learning using three guiding questions:

- Where am I going?
- Where am I now?
- What strategy or strategies can help me get there?

This continuous process of setting a learning target, assessing present levels of understanding, and then working strategically to narrow the distance between the two is the essence of formative assessment (Moss & Brookhart, 2009).

Ongoing formative assessment has provided teachers with solid platforms to understand “how” students can improve their learning so they can be proficient in each of the standards set. Using this assessment enables teachers and students to work closely together to best determine the learning that needs to occur and the best method in helping them get there, thereby creating critical thinkers who can reach far beyond just completing the requirements. It enables instructors to internalize the principals of formative assessment, making them more powerful teachers themselves. Formative assessment increases teacher quality because it operates at the core of effective teaching (Black & Wiliam, 1998). Furthermore, Black and Wiliam also contend that formative assessment, associated with content areas, knowledge, and skill sets, are effective in virtually all educational settings and at all levels.

There are numerous types of formative assessment that are easy to implement in college classrooms and which provide instructors with quality detailed data to drive instructional practices. Often these are referred to as Classroom Assessment Techniques (CATs) and can be used in both traditional and online learning environments. Formative assessment can be used as a force to improve instruction and enable students to demonstrate real-life application of knowledge and not just recall of facts presented.

Standard Language

Standards are specific targets that state what students should know and be able to demonstrate by the end of a given term. For K–12 education this is by the end of each grade level. In post-secondary education, standards can be set for each course as well as by program. Standards may also be referred to as learning targets, learning outcomes, program goals, or course goals. Proper incorporation of standards is absolutely essential for improving stu-

dent learning. Often, standards are stated in the course syllabus yet never referenced or intentionally incorporated into learning. Students have even reported not knowing them upon completion of a course. Instructors must not only show the standards but actively use them in their course for optimal results. Instructors should discuss the standards with students and have critical in-depth conversations about what they really mean, not just in direct standard language, which can be unclear, but in everyday language which parallels the language of the students. For students to fully understand standards, they themselves must “speak the standards,” understanding and knowing what each term means and represents in their learning. This language must become common everyday language; each class session should have standards clearly identified and posted for all to see. This keeps instruction on target and helps keep student learning focused and directed.

Rubrics and Feedback

Rubrics and feedback clearly go hand in hand when using formative assessment *for* student learning. A rubric articulates the expectations for an assignment by listing the criteria and describes levels of quality from excellent to poor (Reddy & Andrade, 2010). Quality rubrics always include three essential components: evaluation criteria, quality definitions, and a scoring strategy (Reddy & Andrade, 2010). For any rubric to provide effective data about student learning, it must contain these three components and provide a direct correlation with the standard being assessed. Anyone using the rubric should see key terms stated that are pulled from the standard being assessed. As stated in the previous paragraph, standard language is key. While rubrics are typically used by instructors to evaluate student work, much research reveals that if used by instructors or students to continually evaluate work in progress, rubrics can become a powerful teaching tool, helping students to clearly understand the targets set for their learning and the quality of evidence required for demonstrating this new learning. When using a rubric, students are able to continually monitor their own progress, clearly seeing exactly where

their work stands, and what is needed to improve it. Reddy and Andrabe (2010) surveyed over 170 students in both undergraduate and graduate business programs and their research showed that responses were overwhelmingly favorable for the use of rubrics. Students reported a great reduction in completion anxiety and uncertainty, allowing them to focus on what was needed to complete quality work rather than making guesses as to what was expected of them. These results have also been documented in other similar research studies at additional post-secondary institutions. However, it is important to stress that simply handing out rubrics will only provide limited improvement on student work and that rubrics must encompass detailed feedback and cohesive interaction between instructors and students to produce optimal results.

Numerous research studies have found that feedback is crucial to improving student learning and should be embedded in each and every instructional practice. It has been fondly referred to as “feed forward” rather than “feedback” by some in the field of formative assessment. Feedback on performance, in class or on assignments, enables students to restructure their understanding/skills and build more powerful ideas and capabilities (Nicol & Macfarlane-Dic, 2006). In 1998 Black and William reviewed over 250 studies on formative assessment carried out since 1988. While the vast majority were in primary and secondary settings, their meta-analysis clearly showed that feedback resulted in positive benefits to learning and achievement across all content areas and in knowledge and skill types at all levels of education. It was this analysis alone that set the groundwork for all further research on the use and benefit of feedback in post-secondary education. Sadler (1989) closely followed by identifying three conditions necessary for students to benefit from feedback:

1. Possess a concept of the goal/standard or reference level being aimed for;
2. Compare the actual (or current) level of performance with that goal or standard;
3. Engage in appropriate action which leads to some closure of the gap.

Sadler then went on to explain that in many educational settings teachers often give feedback as to how the student performance compares to the standard, yet far too often feedback still falls short of what is actually necessary to close the gap. For example, when using a rubric, the instructor may indicate that the essay was “not sufficiently analytical,” which is too vague and difficult for the student to understand and does not provide any information on how to better improve the performance. Detailed feedback must be ongoing and present in each aspect of the educational process to ensure success. Nicol and Macfarlane-Dic (2006) continued this by developing seven principals for good feedback practice. They posited that good feedback:

1. Helps to clarify what good performance is (goals, criteria, expected standards);
2. Facilitates the development of self-assessment (reflection) in learning;
3. Delivers high-quality information to students about their learning;
4. Encourages peer and teacher dialogue around learning;
5. Encourages positive motivational beliefs and self-esteem;
6. Provides opportunities to close the gap between current and desired performance;
7. Provides information to teachers that can be used to help shape teaching.

Figure 1 presents a conceptual model of formative assessment and feedback that synthesizes current thinking by numerous researchers on this topic (Nicol & Macfarlane-Dic, 2006). This figure demonstrates how an academic task, set by the instructor, is the starting point for the feedback cycle to improve student learning. While the student is driving the majority of the elements required to effectively demonstrate learning, it is vital that the *dialogue* aspect, which appears to be subtle, remains at the forefront of the process.

External Feedback

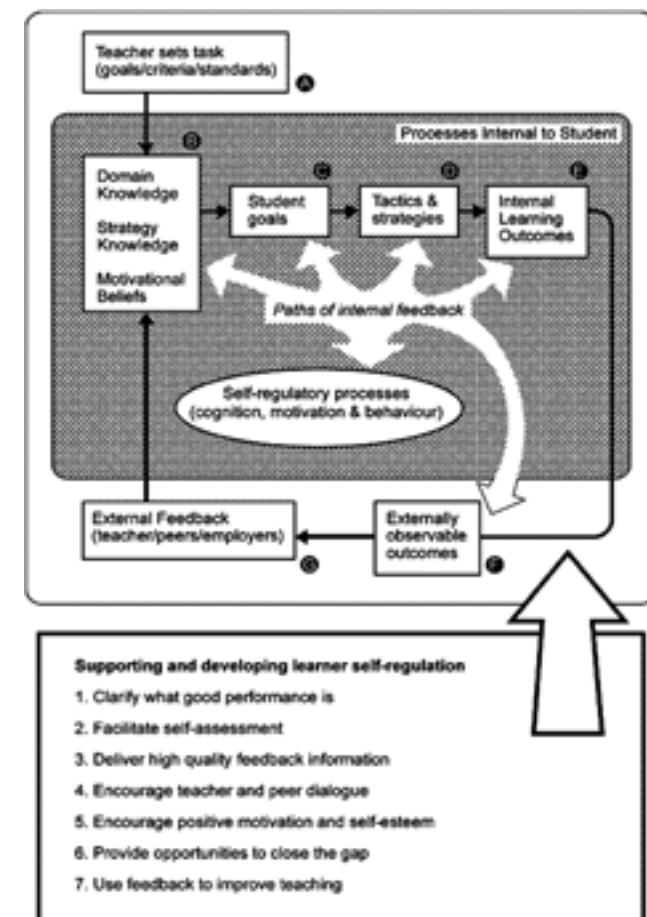
Peer review is a form of evaluation carried out by professional colleagues, peers, and/or other external reviewers. Peers can be experts in the field or classmates who assess the work of other students (Lavy & Yadin 2010). Lavy and Yadin then go on to explain the value of formative assessment in any classroom setting and how this has received large backing from numerous research studies. Using a rubric or a guide when reviewing a peer's paper or project can greatly increase student learning in multiple ways. First, it has been long known that teaching someone to do something truly requires the teacher to understand how to accomplish it first. In peer review, students collaborate to help each other see the strengths and areas for growth in each assignment under review. This type of review requires students to have an understanding of what is expected of them and to use this to evaluate each other's work. It provides an in-depth, hands-on experience with the assignment, in turn increasing understanding and enabling the student to produce a higher quality of work. Second, the use of peer review requires critical analysis of the standard and ways in which students are being assessed on that standard in order for them to adequately demonstrate learning, thus providing students with a rich learning environment which ensures critical thinking beyond the literal level. And lastly, the use of peer review allows students opportunities to reflect and give feedback on each other's work, which in turn helps them to better evaluate their own work, providing a full circle of learning.

Quick CATs

Numerous quick Classroom Assessment Techniques (CATs) are available that instructors can effectively implement into their regular course routine with little additional work. Some CATs are intended to measure learning on a regular basis. One that is particularly effective is a quick write. On a slip of paper, students write one thing they learned that day and one thing they are still unclear about or need more information on. This gives instructors immediate feedback on student learning and provides him/her with an ample amount of

information for planning future class sessions. It involves very little planning to implement and requires only a few minutes of class time. However, these few minutes can provide the instructor with an abundance of information about student learning and areas of concern that need to be addressed. Another variation of this CAT is to have students write one thing they learned and one way they plan on immediately implementing this new learning in a different situation. This provides instructors with an immediate sense of understanding, as students must understand new learning to effectively describe how they will implement it. This is particularly useful in a practitioner-based model of learning where students immediately apply what they learned in their personal settings.

Figure 1. *A conceptual model of Formative Assessment*



Formative Blogging

As technology advances, so does the need for its utilization within classroom settings. One emerging area in formative assessment is the use of technology to enhance student learning. Research studies related to either technology or formative assessment have flooded the field over the past decade, especially in recent years. However, research combining these together is less common. Foggo (2007) published a study using blogging as means of formative assessment, particularly in post-secondary education, and her results indicated the use of blogs for formative assessment allowed a more supportive approach to teaching. She then goes on to state that this practice identified what evaluators wanted to achieve and that their expectations were being met. Researchers contend that to meet the needs of the millennial generation in digital information and library research, we must find methods of actively engaging with their social context (Brindley, 2006). Using a blog can allow students greater opportunities for learning, as they are able to add their content and respond to each other at their convenience and are not limited to active classroom time only. This enables them to continue processing outside of the classroom and furthers critical thinking beyond a limited amount of time. Using a blog also increases student interactions and conversations by building community and increasing comfort levels, which in turn can increase student response and participation. Most important, the use of blogs shows a direct response to student needs which in turn will show a direct correlation with student achievement.

Future Research Directions

While research indicates a great amount of growth in the area of formative assessment, it also demonstrates continual evolution. Two areas that would benefit from research are (1) the use of formative assessment in the ever rapidly growing e-learning setting; and (2) the further application of formative assessment in post-secondary education. As more and more educational institutions

move away from traditional classroom settings and into more flexible formats such as mixed mode and online, the use of assessment *for* learning rather than *of* learning will need to develop just as rapidly.

Conclusion

Over the years there have been many advances in education to improve student learning; however, many of them do not hold the importance of assessment *for* learning. While incorporating formative assessment in the classroom may require an instructor to become accustomed to new or differing teaching methods and pedagogical beliefs, research strongly indicates that the benefits of incorporating formative assessment greatly outnumber the challenges. Another reason the use of formative assessment is so essential is because of its strong presence and use in primary and secondary education. The use of formative assessment is foundational and currently manifests itself in curriculum at every grade level. As current K–12 students graduate and move into post-secondary educational settings, it is evident that they will expect to receive formative assessment in their work at universities.

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