Principles for Effective Classroom Assessment

Des Lignes Directrices pour Une Évaluation Efficace en Salle de Classe

Louis Volante
Brock University

Abstract

Based on a synthesis of the research literature, seven principles for effective classroom assessment are presented. These principles included the need for classroom assessment to be student-centered, aligned with clear learning targets, based on multiple methods, able to account for a variety of student skills, aimed at reducing bias, reliable and valid, and efficient. The discussion addresses ways of promoting these principles at the pre-service and in-service levels and underscores the importance of changing the current Western zeitgeist that diminishes the central importance of classroom assessment data.

Résumé

Cet article propose sept principes qui guident l'évaluation efficace en salle de classe, fondés sur une synthèse des écrits en la matière. Le concept de l'évaluation en salle de classe comprend tous les moyens formels et informels utilisés par les enseignantes et enseignants pour évaluer l'apprentissage et les résultats des élèves. Les principes sont la centration sur l'élève, l'alignement entre l'évaluation et les cibles précises d'apprentissage, l'utilisation de méthodes multiples, la prise en compte de la diversité de compétences des élèves, l'élimination de parti pris, la validité et la fiabilité et, enfin, l'efficacité. Selon l'auteur, les principes fournissent

Dr. Louis Volante is an Assistant Professor in the Faculty of Education at Brock University, with a special interest in Educational Assessment.

au personnel enseignant dans les écoles un cadre d'analyse de leur propres méthodes d'enseignement et d'évaluation. L'auteur suggère des moyens de promouvoir l'application de ces lignes directrices en formation initiale et en développement professionnel et souligne qu'il est essentiel de changer le zeitgeist qui prévaut dans le monde occidental, qui consiste à réduire l'importance de données sur l'évaluation en salle de classe.

Classroom assessment encompasses all the formal and informal ways teachers examine student learning and performance. Methods and tools may include oral questioning, quizzes, tests, exams, assignments, projects, essays, observations of performance, and any other product or sample of behavior that might provide information about how well a student or group of students is doing (Earl & Cousins, 1996). Unfortunately, some teachers believe that utilizing a broad repertoire of methods and tools alone signifies a progressive and effective assessment approach. Nothing could be farther from the truth. This lack of understanding of the principles of sound assessment is often referred to as assessment illiteracy (Stiggins, 2002). The current level of assessment illiteracy amongst teachers and administrators has reached staggering levels and has been likened to professional suicide (Volante & Melahn, in press; Popham, 2004). Rectifying this situation is in part dependent on the articulation of a set of key principles for effective classroom assessment.

This paper describes seven interrelated principles for effective classroom assessment. They include the need for classroom assessment to be student-centered, aligned with clear learning targets, based on multiple-methods, able to account for a variety of student skills, aimed at reducing bias, reliable and valid, and efficient. These principles are based on a synthesis of the research literature and provide classroom teachers, teacher educators, and associate teachers with a framework to evaluate their own assessment practices and pedagogy. The discussion addresses ways of promoting these principles at the pre-service and in-service level and underscores the importance of changing the current Western zeitgeist that diminishes the importance of classroom assessment data for accountability purposes.

Student-Centered Assessment

Teacher-centered assessment approaches follow from the traditional transmission model of education. Unfortunately, this view fails to recognize the fundamental truth that students – not teachers, administrators, district personnel, or even parents, are principally responsible for learning (Stiggins, 2001). In line with this truism comes the recognition that students must be active partners in the assessment process. This type of shared process empowers students and is far more likely to keep them actively engaged within classrooms. Indeed, research has found that student-involved assessment approaches positively influence motivation and learning (Black & Wiliam, 1998).

Teachers can facilitate enhanced motivation for learning by relying more heavily on formative assessment procedures. According to Chappius and Stiggins (2002), teachers should:

- Pretest before a unit of study and make adjustments for individual students or the entire class;
- Examine which students may need more assistance or practice;
- Continually revise instruction on the basis of ongoing assessment results;
- Reflect on the effectiveness of their teaching;
- Convey to students their strengths and weaknesses in particular areas;
- Facilitate peer-tutoring, matching students who demonstrate understanding with those who are having difficulties; and
- Provide opportunities for students to assess their own learning.

The last recommendation is likely the most essential since it allows students to direct their own learning and subsequently take greater ownership for their education. The latter also precipitates the shift from teacher's being directors to facilitators of student learning which is a view supported by contemporary constructivist orientations to teaching and learning.

Learning Target Alignment

In order to meaningfully guide instruction, classroom assessment must be aligned with clear learning targets. Ideally, these learning targets are directly related to mandated curriculum set forth by provincial Ministries of Education. The latter ensures that student achievement accurately reflects the knowledge, skills, and dispositions that particular jurisdictions have deemed essential for their student population. This alignment between curriculum and assessment strengthens the validity of inferences about student knowledge (Campbell & Evans, 2000). It also provides a level of uniformity that permits fairly accurate comparisons across classrooms, schools, and districts. Armed with sound classroom assessment information, district-level administrators can make prudent decisions when contemplating the provision of supports to particular schools and/or student populations.

It is also important for teachers to clearly communicate, in advance of teaching, the learning targets that students are expected to master (Sheppard, 2000). When expectations are transparent and visible to students, excellence becomes attainable for all children (Wolf & Reardon, 1996). The students understand what is expected of them and are better able to engage in self-directed learning. Conversely, when teachers fail to clearly articulate their learning expectations prior to making evaluative judgments, student motivation and learning are often adversely affected and result in feelings of lower self-efficacy. This relationship between assessment expectations and student motivation has been repeatedly supported by empirical research (see Black & Wiliam, 1998; Brookhart & Durkin, 2003; Stefanou & Parkes, 2003) and underscores the importance of demystifying the assessment process for students.

Multiple Methods

Teachers need to be able to translate curriculum expectations into classroom assessment exercises that accurately reflect student achievement (Stiggins, 2002). This match between assessment

exercise and learning target is particularly difficult for teachers that rely on a limited repertoire of assessment strategies. For example, most new teachers have experience only with the assessment measures that their teachers used when they were students: multiple-choice, true/false, and short-answer essay tests (Freiberg, 2002). Unfortunately, these measures are ill-suited to assessing a variety of learning targets and academic domains. For example, student literacy includes reading, writing, speaking, and listening components. While multiple-choice, true/false, and short-answer essay questions provide a fairly accurate measure of reading comprehension skills, they are unable to assess speaking skills. In this instance, performance-based assessments such as public speaking and/or debating provide a more authentic indicator of students' skills in this domain. Herman (1992) has argued that this issue of content coverage and the utilization of assessment tasks that represent a full curriculum is a key issue for ensuring educational quality.

Major assessment categories include selected response, constructed response, performance assessment, portfolio assessment, personal communication, and observational techniques. Each of these methods provides valuable information on the progress (or lack thereof) of students. The challenge for teachers is to understand how to design and use each of these methods to assess particular learning targets. Using data from unreliable sources may actually lead to a decrease in student achievement (Fox, 2000). Conversely, the appropriate use of multiple approaches in particular academic domains strengthens the inferences/conclusions that follow from teachers' classroom assessments. In a sense, the teacher triangulates their assessment results to arrive at sound conclusions.

Student Skills

Since the introduction of Howard Gardner's (1983) seminal work *Frames of Mind* there has been an increased awareness of the diverse skills that children may possess and develop. His Multiple Intelligence (MI) Theory postulated that there are at least nine types of skills: verbal, mathematical, spatial, bodily-kinesthetic, musical,

interpersonal, intrapersonal, naturalistic, and existential (Gardner, 1999; 1993). These skills can be demonstrated in the classroom through a variety of activities. For example, spatial skills can be fostered through the creation of charts and diagrams. Conversely, naturalistic skills may be developed through recycling activities and other environment friendly projects. The most recent intelligence, existential skills, could be promoted by having students explore different worldviews as expressed by Eastern and Western philosophers. A teacher could easily integrate these activities into disciplines such as Mathematics, Science, Geography, and History.

The ultimate educational value of MI Theory is that it reminds educators to use varied, multi-modality instructional and assessment tools in their classrooms (Santrock, Woloshyn, Gallagher, Di Petta, & Marini, 2004). Indeed, a reflective practitioner is one that constantly queries whether their assessment and evaluation approach is unfairly biased toward a particular learning style. A stark example of this would be a teacher that bases 95% of their science grade on classroom tests, with the other 5% to be made up of student labs and other project-based activities such as the recycling activity previously mentioned. The latter underscores the need to balance assessment methods when arriving at evaluative judgments, particularly those used for important summative purposes such as final course grades or grade retention.

Bias

There has been a growing recognition that teachers play a central role in creating a more just and democratic society. In order to accomplish this goal, some pre-service programs have emphasized the critical/social orientation to teaching and learning that combines a progressive social vision with a radical critique of schooling (Volante & Earl, 2004). Teachers are instructed to be especially sensitive to issues related to race, class, and gender so that their instruction does not perpetuate or reinforce inequalities within their classrooms. The importance of the central concept of equity within the critical/social orientation provides important lessons for both aspiring and practicing teachers. Namely, their instruction and assessment approaches should

aim to reduce bias.

Just as effective assessment acknowledges diversity in students' learning styles, so too should it reflect the cultural and ethnic differences that exist amongst Canadian students. A teacher can accomplish this goal through a variety of steps:

- Reflect on pre-conceived notions that may affect the marks/grades you assign to particular groups of students;
- Provide gender-neutral terms within tests and other forms of assessment;
- Provide test questions and other assessment items that reflect the multicultural and multiethnic composition of your school, district, province, and country;
- Examine how your classroom complements or conflicts with the school experiences and assessment techniques which are familiar to recent immigrants;
- When possible, use a blind process when grading tests, essays, and other products (i.e., conceal names, mark separate sections individually); and
- Take steps to reduce the effects of test-wiseness on academic achievement (i.e., design carefully constructed test items, utilize multiple-formats, provide reviews prior to testing).

Collectively, these steps create a welcoming environment for all students and reduce assessment bias that often provides an unfair advantage to dominant cultural groups.

Reliability and Validity

Reliability refers to the assessment score, not the measure from which the score is generated. In order to minimize the error associated with classroom scores and improve consistency, teachers need to provide students with multiple opportunities to demonstrate what they know. For example, unit-culminating tests may be preceded by informal assessments and/or brief quizzes. The latter provides valuable information to both students and teachers: students are given feedback so that they may intensify their efforts in particular areas;

teachers can use the results to inform their future instruction. This approach strengthens the likelihood that results generated from important assessment measures are reliable. That is, they are likely to get the same assessment result if the test and/or exam were administered under the same conditions on another day.

Simply put, validity refers to the accuracy of the inferences generated from the results of an assessment measure. Gronlund (2003) succinctly outlines various factors that lower the validity of assessment results:

- Tasks that provide an inadequate sample of the achievement to be assessed;
- Tasks that do not function as intended, due to lack of relevance, ambiguity, clues, bias, inappropriate difficulty, or similar factors;
- Improper arrangement of tasks and unclear directions;
- Too few tasks for the types of interpretations to be made (i.e., few test items);
- Improper administration – such as inadequate time allowed; and
- Judgmental scoring that uses inadequate scoring guides, or objective scoring that contains computational errors.

This cadre of factors suggests that teachers need to become sufficiently conversant with both the subject matter they teach as well as design and administration elements that result in reliable and valid assessment results.

Efficiency

The final principle speaks to the ease with which teachers are able to design and implement various assessment tools and measures. Indeed, the most elaborate assessment scheme, supported by solid empirical research, is doomed to fail if it does not fit easily with the daily work environment of teachers. Teachers often complain that they do not have the time to develop sound assessment measures (Popham, 2004). Preparation time is such a contentious topic in Canada that it has resulted in teachers going on strike on numerous occasions. This apparent lack of time for classroom planning has often resulted in

teachers under-utilizing authentic assessment approaches such as portfolios. Ironically, the initial investment to develop portfolios pays dividends later. These measures have direct significance for the learning needs of children and they often require less time as the academic year progresses (Karge, 1998).

Feasibility issues often skew teachers in the direction of what they know best – traditional paper-and-pencil techniques, which themselves may be poorly developed. Finding ways to integrate alternative assessment techniques into the daily repertoire of practicing teachers is a pivotal concern. It requires a philosophical shift away from the transmission model that relies heavily on selected- and constructed-response assessments to a classroom environment that values different types of student achievement evidence. The next section outlines ways of promoting effective classroom assessment in aspiring and practicing teachers.

Promoting Effective Classroom Assessment

Promoting assessment expertise naturally begins in faculties of education. By modeling assessment practices that respect the previous principles, teacher educators and associate teachers are situating teacher candidates to develop sound classroom assessment practices that support constructivist orientations to teaching and learning. Unfortunately, pre-service students have often reported poor preparation in this area (Campbell & Evans, 2000). The latter suggests that programmatic changes and reforms are required in faculties of education. Nevertheless, a review of the teacher education reform literature repeatedly suggests that the vast majority of reform initiatives have focused on altering the structural design of the practicum component since it is often viewed as the single most important element within pre-service education (Beck & Kosnik, 2002). Newer field-based programs that offer students ongoing and extended placements within schools have increasingly replaced traditional programs. Although these programs have allowed students to successfully integrate theory and practice, the excessive emphasis on practice-based elements has deflected attention from a thoughtful discussion of the actual substance of coursework within teacher

education programs (Darling-Hammond & Youngs, 2002; Volante & Earl, 2004). Indeed, there are consecutive teacher education programs that offer their students little more than a brush stroke of information on student assessment and evaluation. In many instances, these programs have assumed that their students will develop this knowledge within their curriculum and instruction courses. Clearly, the importance of utilizing assessment for instructional purposes should necessitate more focused attention in all teacher education programs within Canada.

Poor pre-service preparation also suggests that practicing teachers require ongoing professional development opportunities to develop classroom assessment expertise. The central importance of assessment literacy has recently motivated governments to provide funding and other resources targeted to support the development of sound classroom assessment practices. This type of large initial investment has resulted in improved teaching and assessment practices in K-12 schools and underscores the value in providing similar large-scale initiatives (Volante & Melahn, in press). Nevertheless, more modest schemes can also produce fruitful results for individual teachers and schools. For example, one way for a teacher to enhance their assessment knowledge is to simply read an assessment book written specifically for practicing teachers (Popham, 2004). Another approach is to develop learning teams within schools that regularly share ongoing assessment related successes and challenges (Stiggins, 2002). Administrators can facilitate such teams by providing the space available for teacher conferencing, while districts can provide the release time required. Thus, a concerted effort at the provincial, district and school level is needed if teachers are to develop sound assessment knowledge and skills.

It must be conceded that the success of these proposals is partly affected by the current preoccupation with large-scale achievement testing. Currently, every province (excluding Prince Edward Island) and state administers some form of large-scale student assessment. This pervasive testing culture has had a profound effect on the perspectives of primary stakeholders: students, parents, teachers, administrators, and policymakers. In general, these groups, particularly policymakers, have come to view these measures as the

central criterion for evaluating quality in public education (Burger & Krueger, 2003; Jones, 2004). Indeed, policymakers continually subscribe to a market-based approach to education and advocate that only through benchmarking standardized achievement test results can schools be compelled to improve (Hilliard, 2000). Not surprisingly, this dominant view has worked to trivialize the value and importance of classroom assessment data, both for accountability purposes and educational decision-making. Changing this zeitgeist requires that teachers and academics actively engage those who are charged with making important decisions. The latter is crucial for the development and ongoing sustainability of effective practices within schools.

Conclusion

This paper has argued that effective classroom assessment is student-centered, aligned with clear learning targets, based on multiple methods, able to account for a variety of student skills, aimed at reducing bias, reliable and valid, and efficient. Collectively, these seven interrelated principles provide teachers, teacher educators, and associate teachers with a framework to reflect and guide their own assessment and pedagogy. In truth, ongoing research may suggest additional factors that are worthy of consideration. Nevertheless, the articulation of a set of key principles for effective assessment represents an important first step, particularly for an area that has traditionally been marginalized and neglected. Indeed, if even a fraction of the resources were redirected from large-scale testing programs to support the development of sound classroom-based assessment practices, perhaps real improvements could be achieved within public education.

Correcting the value imbalance between standardized testing and classroom assessment is also essential if we are to change the current Western zeitgeist. The latter scorns classroom assessment data in favor of seemingly objective large-scale standardized achievement measures (Popham, 2003). Clearly, if classroom assessment *really* matters, then it must carry weight for broader accountability and educational decision-making purposes. The latter conveys to students, teachers, parents, district personnel, and

policymakers, that classroom assessment results and skills are valuable and worthy of attention.

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