

A Method for Providing Assessment Training to In-service
and Pre-service Teachers

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ABSTRACT

Given the current federal and state legislation regarding assessment in K-12 education, it is imperative that teachers have knowledge of measurement principles and be aware of the proper way to implement these in the classroom. This paper describes one program designed to train teachers in the methods and principles of classroom assessment based on the work of Richard Stiggins (2001). Results are provided that detail the impact of training on teacher confidence regarding classroom assessment practices.

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Teachers, both classroom teachers and pre-service teachers, are entering classrooms unprepared to perform the tasks expected of them by federal and state legislations. Teachers are expected to raise achievement levels of their students continuously until the year 2014 when all students are expected to have achieved proficiency on academic standards. In 1990, the American Federation of Teachers, the National Council on Measurement in Education, and the National Education Association developed the *Standards for Teacher Competence in Educational Assessment of Students* in an effort to address the lack of teacher preparation in the area of assessment and measurement training. These standards were developed under the subscription that student assessment is vital to good teaching and good teaching cannot exist without good assessment. The developers of the *Standards* state that assessment training should be widely available to practicing teachers through staff development programs.

In an effort to address the need for assessment training, a program was developed to bring pre-service and practicing (in-service) teachers together for a collaborative training program focused on classroom assessment issues and knowledge. This paper discusses the approach taken by this program to increase teacher assessment literacy and the outcomes of the program.

Theoretical Perspectives

In 1998, Black and Wiliam conducted a study of 250 research articles looking at the impact of classroom assessment on student achievement. They asked the question if improving *formative assessment* (assessments during learning) improved student

learning. The unequivocal response to this question was “yes.” Black and Wiliam took their research one step further and determined that students who benefited most from improved formative assessment were students considered as *low achievers*.

Black and Wiliam go on to state that the ultimate user of assessment information is the student, and that the information they gain from assessments will have positive and negative effects on students’ views of themselves as learners. For the low achieving student in particular, positive effects can be that the teacher is able to identify problems with their work and give them a clear understanding of what is wrong and how to correct it. Negative effects can include an obsessive focus on competition, fear of failure, and effort spent on looking for clues to the *right answer* rather than students developing confidence in themselves as learners. Black and Wiliam purport that students who believe they lack ability will avoid investing effort in learning and will try to build their self-esteem in other ways. Black and Wiliam contend that daily classroom assessments must be of high quality or they won’t be effective and may even be detrimental to student learning and motivation.

The need for teachers to be trained in good measurement practices is critical to the success of the many state assessment systems which require teacher participation in all phases of the assessment process. In this study, one particular mid-western state (Nebraska) was chosen for examination because its current legislation for school assessment places teachers at the core of instruction and assessment yet does not require assessment training in teacher preparation. Therefore, the need for teacher training in classroom-based assessment practices was clear.

In 1993, Wise and Lukin found that 66% of sampled teachers in Nebraska schools had less than one course in measurement and 47% of sampled teachers felt their training was inadequate. Therefore, teachers are in classrooms vastly unprepared to develop, administer, or interpret results from assessments. Lacking assessment training, teachers rely on colleagues or staff development opportunities to increase their assessment knowledge. Wise and Lukin also report that 80% of respondents identified non-coursework factors as having the greatest influence on their measurement knowledge.

A study conducted by Impara, Plake and Fager in 1993 found that 70% of surveyed teachers have some training in measurement, while the rest of the surveyed teachers reported having no training at all. Encouragingly, approximately 90% of the teachers indicated they were interested in becoming more assessment literate. The majority of the teachers indicated they would have a positive interest in participating in an in-service related to student assessment. Additional findings suggest practicing teachers would prefer in-service programs to college courses as the best way for them to acquire the knowledge and skills needed to assess student performance properly.

Given state and federal legislative requirements for teachers to engage in assessment activities and the lack of teacher preparation in measurement, it is clear classroom teachers need a training program in order to be more effective assessors of their students. As Black and Wiliam contend, the only real way to increase student motivation and achievement is through effective formative assessment. Since classroom teachers spend approximately 50% of their time assessing their students (Impara, et al., 1993) it is critically important that the time be spent with effective assessments that are motivating and meaningful to students.

For the 2003-04 school year, a program was developed to address the lack of training for both in-service and pre-service educators: In-service and Pre-service Assessment Literacy Study Groups (IPALS). The overarching objective of this program was to provide opportunities to new and experienced teachers in order to develop assessment literacy and effective assessment practice in their classrooms. Specific learning outcomes for in-service and pre-service teacher participants included (a) demonstrate an informed understanding of standards-based assessment and accountability in general and the Nebraska model in particular, (b) understand and be able to apply basic assessment principles such as bias, reliability, and validity to assessment in the context of teaching and learning English and the language arts, (c) understand and be able to apply English/language arts standards, models, and issues to assessment in the context of teaching and learning, (d) write technically sound classroom-based assessments that are matched to teaching goals and that capture the English/language arts learning of children and adolescents in multiple ways, (e) know how and when to develop and use performance assessments and portfolios in support of the learner's English/language arts development, (f) increase assessment self-efficacy, (g) effectively communicate assessment results to parents and other educational stakeholders, (h) act upon the belief that assessment is an integral part of the entire teaching and learning process by developing learning activities based upon both sound English/language arts and assessment principles, and (i) make data based decisions that drive teaching practice in support of children's learning.

Methods and Data Sources

Twenty-four participants were recruited to participate in the program. Ultimately, eleven of the participants were pre-service teachers in the last year of their program in elementary (K-6) or secondary (7-12) and thirteen were practicing K-12 teachers who had not yet participated in district-level initiatives aimed at development of classroom-based assessment. Building principals were contacted and permission was granted for the practicing teachers' participation. Pre-service teachers were selected based on their area of study. Only those preparing for teaching in reading/English/language arts were chosen. Likewise, practicing teachers were chosen if their teaching assignment was in reading/English/language arts and if they were able and willing to commit to serve as a cooperating teacher to the pre-service teacher. Each pre-service teacher was paired with one of the program practicing teachers for their student-teaching experience. It was vitally important to ensure the pre-service teaching assignment met the certification requirement necessary for elementary and secondary English majors. The program was able to establish three partner schools: one at each level of elementary, middle, and secondary.

During the summer prior to the beginning of the school year, a two-day retreat was held for all participants (see Attachment A). The purpose of the retreat was to (a) build a learning community, (b) develop an understanding of the overall assessment context, (c) link assessment to English/language arts models and issues, and (d) share the learning of previous similar programs with the new participants. Each participant received copies of *Student-Involved Classroom Assessment*, 3rd ed. (Stiggins, 2001), *Practice with Student-Involved Classroom Assessment: a workbook and learning team*

guide (Arter & Busick, 2001), and *Standards for the English Language Arts* (NCTE & IRA, 1996). Learning teams were identified at the retreat and members had a chance to get to know one another, explore their materials, and schedule dates for learning team meetings. At the end of the retreat, participants completed the Classroom Assessment Confidence Questionnaire (pre measure; CACQ, Arter & Busick, 2001). The CACQ was designed to specifically focus on teacher confidence in four areas: developing clear learning targets, understanding, developing, and using different types of assessments, involving students in assessment, and communicating effectively about student achievement. The CACQ is a 25-item self-report measure where participants respond to each item on a 0 to 4 scale indicating how confident they are in their ability to perform each assessment-related task.

During the first semester of the 2003-04 school year, learning teams met six times at locations convenient to the group, on a schedule mutually agreed upon by group members. Each meeting focused on specific chapters from the Stiggins text, activities from the workbook, and readings from the standards. A mentor teacher who had previous experience in a learning team was assigned to each team. The mentor suggested chapters to focus on and particular activities they thought were especially meaningful, however, the mentor did not lead the group, as leadership was a shared responsibility.

The second semester of the 2003-04 school year focused on a project the pre-service teachers conducted with their paired in-service teacher. The project was to focus on an assessment principle that would relate to and inform the school improvement goal of increasing student achievement in the area of English/language arts. Learning teams continued to meet once a month to discuss project progression and continue discussions

of classroom assessment issues/concerns. At the conclusion of the second semester, the whole group convened to share projects in a presentation format. At the completion of this project, participants again completed the CACQ (post measure).

Results

The preliminary results described below represent the major findings of the study. The final sample included in the analyses consisted of 17 teachers who completed both the pre and post measures. The reliability estimates (Cronbach's alpha) for the total CACQ measure and for each of the four subscales at both the pre and posttest ranged from .62 to .90 indicating moderate to high internal consistency. By examining the average scores for each of the response scales, it is possible to make comparisons across subscales (see Table 1). Results of the pre test indicated program participants were most confident communicating effectively and accurately about student achievement and were least confident when attempting to develop clear achievement targets for students. Results of the post test indicated program participants were most confident in their ability to understand, develop, and use different types of assessments, and like the pre-test, least confident in their ability to develop clear learning targets for students. Paired-samples t-tests indicated that participants experienced a significant increase in their overall confidence developing clear learning targets, developing, and using different types of assessment, and involving students in assessment (all significance values were medium to large effects as indicated by eta-squared). Although participants increased their confidence in communicating effectively about student achievement, the increase was not significant.

Results indicate that the program was successful in increasing teachers' confidence to use current assessment methods in the classroom in order to measure student learning. The unique approach taken to this program (self-study) seemed to serve the teachers well as they were able to focus on the areas in which they felt the least confident. Teachers reported that they enjoyed the small group discussion atmosphere, which facilitated the learning process, and the textbook created by Stiggins proved to be a helpful resource for guiding them through the learning process. For future teacher preparation programs, additional resources will be sought out that cover additional technical information such as reliability and specific ways for appropriately assessing validity of the use of assessment results.

Table 1

CACQ pre/post test results

	Average score				Reliability	
	Pre	Post	Change	Sig	Pre	Post
Developing clear learning targets	1.77	2.33	0.56	<.01	0.79	0.90
Understanding, developing, and using different types of assessments	2.02	2.64	0.62	<.01	0.90	0.69
Involving students in assessment	1.82	2.36	0.54	<.01	0.90	0.81
Communicating effectively about student achievement	2.19	2.46	0.27	0.09	0.84	0.62
Overall score	1.95	2.45	0.50	<.01	0.90	0.90

Educational Importance of Study

Teachers are required to have a clear understanding of their students' abilities. Without a clear understanding of students' abilities, teachers have no definitive idea of how students are meeting standards or if students' achievement is increasing. With little or no training in testing and measurement, the ability to define student achievement becomes a daunting task for teachers. This program was designed to show one method

for providing classroom assessment training to both in-service and pre-service teachers. Results of this program indicate that this form of training increased teachers' confidence in classroom assessment phases that include developing learning targets, developing and using different types of assessments, involving students in assessment, and communicating effectively about student achievement.

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