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ABSTRACT

This study examined whether New Jersey students of elementary teachers trained in the use of standards-aligned curriculum materials and the nature of standards themselves would submit standards-meeting work after they were taught the standards-aligned activities. Two urban districts received funding to train teachers to meet the new science standards. Teachers received extensive, intensive professional development for teaching to the new standards. Three universities collaborated provided teachers with summer workshops and academic year support for implementing the science standards in the classroom. During and after the workshops, teachers, school administrators, and university instructors completed interviews and surveys to assess consistency across workshops and presentations. District administrators, principals, and teachers participated in a performance-based evaluation to identify changes in teachers planning and teaching behavior resulting from the workshops. Lesson plans and student work samples were evaluated. Overall, participating teachers experienced substantial challenges in planning standards-based lessons, eliciting student work samples that demonstrated proficiency in a selected standard, and evaluating student work in relation to the expectations of the selected standard. Results suggest that alignment of curriculum with standards training teachers to teach with the aligned curriculum is insufficient to elicit student proficiency with the skills and knowledge of the standards. (SM)

Implementing State Academic Content Standards In the Classroom

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Implementing State Academic Content Standards In the Classroom

Introduction

The current educational reform movement is witnessing a transition of influence from nationally developed curriculum standards written as early as 1988 (Curriculum Standards of the National Council of Teachers of Mathematics) to state academic content standards backed by high-stakes criterion referenced examinations. All fifty states in the U.S. are now in various stages of planning and implementing state academic content standards for students in grades K-12. In some states, the standards were developed five or more years ago and a system of criterion-referenced examinations now measures student achievement of the standards (New Jersey and Virginia). In Massachusetts, results from the tests are beginning to demonstrate student achievement gains in mastering standards that are highly regarded (USA Today, 2001). Other states have struggled to identify the knowledge and skills to be expected in the standards. In these settings, a transition period is in evidence where public policy on student assessment embraces both traditional standardized tests and the new standards based testing programs (California).

The considerable effort of installing standards-based educational systems is resulting in new structures and processes that are visible across the country. First came the standards themselves, followed by the preparation and installation of enabling documents and conditions to assure that students would meet the expectations of content standards. Massell (1998) examined the efforts of state policy makers to develop capacity building strategies for standards implementation that she placed under two main headings: (1) classroom level capacities, and (2) school, district and state organizational capacities. In the latter category she identified capacity building strategies in eight states: building external infrastructure to provide professional development and technical assistance, setting professional development and training standards, providing curriculum materials, and organizing and allocating resources. She also identified the classroom level capacities needed for standards implementation: 1) teacher's knowledge, skills and dispositions, 2)

student's motivation and readiness to learn, and; 3) curriculum materials for students and teachers. Of the twelve strategies for building classroom capacity identified by Massell, only two related to providing teachers with resources for the classroom: 1) creating curriculum frameworks and supplementary materials and, 2) creating resources banks of curriculum materials.

The problem

While substantial energy has been devoted to the identification of standards system “inputs” and “outputs,” little is known about new lesson planning, teaching, and student evaluation activities that may be needed in a standards-based classroom. In California, the new California Standards for the Teaching Profession do not identify specific methods for standards-based classrooms. Little direction has been given to teachers about using standards, frameworks, test blueprints or other state documents to craft a standards-based lesson. Moreover, teacher preparation programs do not focus on preparing teachers to plan outcomes-based instruction where the outcomes of lessons are behaviors and products described by the standards.

Some studies have attempted to characterize new teacher behaviors and roles that would appear with standards-based teaching. Bradfield-Kreider (1998) stated that “teachers in standards-based classroom spend their preparation time differently than teachers in more traditional classrooms: 1) they examine the local, state, and national standards, analyzing them in light of their course content and student needs; 2) they modify, locate or create new standards-based curricular tasks that are closely aligned with local, state, and/or national standards; and 3) they develop and/or modify a variety of authentic assessment tools with accompanying rubrics or scoring guides to monitor students' learning gains toward standards as they perform these tasks.”

Ingram and Colby (1998) have asserted that “little is known about how to move from setting the standards to actually using them to change instruction and improve student achievement. They evaluated a professional development program that trained teachers to write standards-linked learning activities. Using observations, interviews and written

surveys, they studied the effects of professional development workshops that taught teachers to use computer software for writing standards-linked instructional activities. In addition to technical difficulties with the software, the teachers encountered “substantial obstacles” in the development of learning activities. “Some of the issues they experienced were as follows: areas of the standards were ambiguous or contradictory; the distinction between an instructional activity and a performance assessment was unclear; they were unsure how the instructional activities they were developing should fit in with existing district curricula and scope and sequence for instruction.” Teachers participating in the professional development did note differences in standards-based planning when compared with traditional lesson planning. The majority of the teachers in their study described the new process as “thinking of standards first and making a link between standards and activities.”

Gibbons, Kimmel, and O’Shea (1997) described an extended effort to modify teacher behavior as recommended by the National Science Education Standards. In this effort teachers were provided with workshops and extensive modeling of the desired behaviors in the teachers’ classrooms by visiting graduate students. The findings demonstrated that some teacher behaviors recommended by the national standards emerged after two or more semester of classroom.

Tell, Bodone, and Addie (2000) examined the challenges and concerns raised by teams of educators from high schools and higher education as they planned and implemented standards-based lessons across Oregon. They concluded from this effort that effective teaching in a standards-based environment “must begin and end with the standards.” They described a number of planning domains that are linked in the standards-based planning process. These include the identification of a target of learning from the standards.

Some districts and states are relying on improved curriculum materials to meet the challenge of teaching to the standards. This strategy calls for adopting curriculum materials that are closely aligned with the standards. Districts are hoping that teacher

training in the use of standards aligned curriculum resources will help teachers meet the standards. These efforts are supported by the assumption that students will produce standards-meeting student work if the teacher uses standards-aligned curriculum resources in the classroom. Bay (1999) identified conditions that must be in place to implement a standards-based Mathematics curriculum. They concluded that standards-based mathematics teaching “generally means using curriculum that is closely aligned with the philosophy and recommendations described in three standards documents of the NCTM. In 1999, a study was begun in New Jersey to substantiate the value of this alternative approach. If teachers were trained in the use of standards-aligned curriculum materials and the nature of the standards themselves, would the students of these teachers submit standards-meeting work after they were taught the standard-aligned activities? From 1998-2000, a study was conducted in New Jersey to find answers to this question.

Academic Content Standards in New Jersey

The State of New Jersey was among those states to achieve relatively early installation of a standards-based educational system. By 1996 the state had adopted Core Curriculum Content Standards in essential academic areas and in workplace readiness. The standards in each discipline subsume cumulative progress indicators for grades K-4, 5-8, and 9-12. The science standards in New Jersey are neither overly prescriptive nor overwhelming in content. Each standard is to be addressed through the grade levels, with the achievement of subsumed cumulative progress indicators serving to operationally define the achievement of the standards.

New Jersey followed standards adoption with the development of criterion referenced, standards-based exams in the core curriculum areas. These tests are administered on three occasions during a student’s public school enrollment. The Elementary Standards Proficiency Assessment (ESPA) is administered at the end of grade four, the Grade Eight Proficiency Assessment is administered at the end of grade eight, and the High School Proficiency Assessment (HSPA), currently in development, is to be administered in the eleventh grade.

Since 1996, the State Department of Education has sponsored the development of enabling documents to help teachers reach the standards. Frameworks elaborate the standards and provide teachers with suggestions for teaching to the standards. They include specific activities and suggestions for teachers. They also provide elaborating statements regarding the skills and knowledge students should acquire to demonstrate achievement of the standards. Directories of test specifications have also been prepared to help teachers and administrators understand the nature of the new criterion referenced examinations. The directories include knowledge and skill statements for cumulative progress indicators subsumed by each standard. They also include a matrix of content area emphasis for each exam and discipline. Sample test items and scoring guides are also included. The New Jersey Department of Education also provides a website where parents, community members, students and teachers can learn more about the standards, and the frameworks. Specific information is provided about test administration, test score reporting and test accountability issues.

New Jersey is a local control state where community boards of education are legally empowered to determine the curriculum offered in their schools. The frameworks and directories of test specification are provided to districts as tools to guide the textbook and curriculum materials adoption process. New Jersey does not have approved lists of curriculum resources or state textbook adoption procedures.

The development of a standards-based educational system in New Jersey was part of a state response to a landmark legal ruling, *Abbott vs Burk*, that declared New Jersey's public school funding procedures to be inequitable. Several urban school districts were found to be under resourced in comparison with suburban school districts. The administrative law court identified a number of so-called "Abbott" districts earmarked to receive supplementary funding and support to remedy the inequity identified by the court.

The setting of the study

In the 1996-1997 year, two urban school districts of New Jersey's densely populated Hudson County received GOALS 2000 funding to train teachers to meet the new standards. One of the districts, populated predominantly by Latino students, many of whom are English language learners, is an "Abbott" district. The community population is highly transient. The community experiences high transience because the community is the first place of residence of recently emigrating families from Spanish speaking Caribbean countries. Of the eight elementary schools, five have K-8 structure. The three other elementary schools send their students to one middle school. The district has two high schools. The majority of the teacher population in the elementary schools holds valid teaching credentials for their grade level. Standardized test scores in this community fall well below the average for the rest of the state. The other school district, also in Hudson County, is a stable, working class community. The community is stable with several generations of southern and eastern European families also living in a high-density urban environment. The majority of students come from families where English is spoken at home. Standardized test score averages are higher in this community than the first community, but they are well below the average for the state.

The two districts used their supplemental GOALS 2000 funding to provide their teachers with extensive and intensive professional development for teaching to the new Science standards. Three universities in northern New Jersey formed a partnership to provide the teachers with summer workshops and academic year support for implementing the Science standards in the classroom. The university faculty and staff involved in the project were knowledgeable about the content of the science standards. Some of the faculty members involved in the project were members of committees that helped develop the standards. The three universities collaborated closely, with one university taking the lead in earth science, one university taking the lead in physical science, and the third university providing leadership in Life Science and Science pedagogy.

Methods and Procedures

The study of standards implementation in two urban districts was guided by the research question, “if teachers are provided with state standards resources and they are also provided with extensive staff development, will their lessons be focused on the standards, and will their students produce standards meeting work?”

From 1997 to 1999 the elementary school teachers of the districts participated in several elementary school science workshops provided by three universities supported by Eisenhower funding and the National Science Foundation. The workshops included science content and activities calibrated with the standards. Workshop content and related NJ standards were examined and reviewed by teachers through discussions facilitated by the instructors.

During and after workshops teachers, school administrators, and university instructors were interviewed and surveyed to assess consistency across workshops and presentations. In the spring of 1998 and during 1999, district administrators, principals, and 25 selected teachers participated in a performance-based evaluation to identify changes in teacher planning and teaching behaviors resulting from the standards and the workshops. After workshops were completed, teachers were asked to do the following so that we could study their efforts in implementing content standards:

1. Plan a lesson for their students that would include one of the standards-aligned activities they had learned in the workshops;
2. Identify the standard and indicator or indicators they expected their students to achieve as a result of the lesson and include them in the lesson plan;
3. Provide a learning objective for the plan and state its relationship to the standard and indicator selected;
4. Teach the lesson and collect student work samples. Evaluate the student work to see if the selected indicator of a standard had been achieved.

5. Provide written commentary about three student work samples describing the evidence within the samples that documents achievement of the selected indicator.
6. Turn in the lesson plan, the three student work samples, and the commentary about the work samples to the principal.

The lesson plans and the student work samples were collected by the principal and examined to determine the extent to which students met the standards or indicators following the extensive teacher training. Each principal was asked through a separate letter to review the student work in relation to the lesson plan and affirm or deny that the student work met the expectations set forth in the lesson plan. Principals sent their comments, the teachers' plans, and all student work to the investigator for analysis. The investigator analyzed each lesson plan, student work set, and related commentary through the use of a standard protocol that resulted in a standard report format for each set of lesson materials and related comments. An example of a completed report is given below:

Fig. 1

Sample lesson report

Grade and School

Huron School No grade given

Standard:

The teacher did not identify a New Jersey Core Content Standard Standard 5.1 would be appropriate for this activity:
"All students will learn to identify systems of interacting components and understand how their interactions combine to produce the overall behavior of the system."

Indicator:

No indicators were provided,
Indicators 5.1 - 5.4 would be appropriate

Teacher Statement About Student Work:

"The children drew a picture of an open and closed circuit. The children explained and demonstrated what they did to the teacher and to the class." The teacher provided her lesson plan, involving an explanation of a closed circuit and the application of a switch to control a closed circuit. An objective for the lesson was stated, "The effect of switches on electrical circuits."

Principal's Statement:

None provided

Description of Student Work:

Student worksheets were provided with multiple choice and completion items calling for recognition of science terms. Student diagrams of closed and open circuits were provided that included labels for parts. A student response sheet was included calling for students to perform a language arts exercise in defining terms, the example of which included the term "conductor;" none of the items related to circuits or electricity. Students provided drawings of various items under the labels "conductor" and "insulator."

Teacher selected indicators that are met by student work provided:

The teacher did not identify any indicators. Indicator 5.1.3 of the Standards, "Diagram the components of a system." Appears to have been met.

Indicators identified by teacher as met that are lacking related student work:

No indicators selected

Commentary:

A variety of student work was submitted that was standards related. There was no apparent linkage, however, to the central concept of Standard 5.1, systems and their interacting components.

Standard indicator 5.9.7 was met as well, "Demonstrate how electricity can be used to produce heat, light, and sound."

Sorting and classifying was evident in the identification of insulators and conductors. Much of the work expected from students related to vocabulary acquisition.

The outcomes identified by the teacher were not captured in written form or in some other form of documentation. Students may have stated understandings identified in the objective but there is no record of this.

A pattern of challenges and frustrations with teaching to the standards emerged from an analysis of the teacher's lesson plans and the student work products that resulted from the teaching. A summary of the results appears below in figure 2.

Fig. 2
Typology of Error in Classroom Standards Implementation

Error Category	Type of Error	Example or frequency
Omission of required Element – Teachers	Type of Omission	Frequency: Low: 25% rate or lower Medium: 25-50% High: over 75%
	Failure to prepare a lesson plan	Low: all teachers in the sample submitted written plans describing intentions
	Failure to state a standard	High: most teacher provided an objective or other statement of intentions
	Failure to state indicators	High: despite specific direction most teachers did not state an indicator to be achieved in a lesson
	Failure to state intended learning outcomes related to an indicator of a standard	High: often a learning outcome was expressed, but rarely related to an indicator of a standard
	Failure to provide commentary on student work	Low: most teachers provided general comments about student work, but not in relation to an indicator
	Failure to conclude that intended outcomes have been achieved	High: statements of student achievement typically unrelated to indicators
Error in performance of A required element – Teachers-	Type of Error	Example

	Selecting or stating standards	<ul style="list-style-type: none"> 1) Stating too many standards achievable by the lesson 2) Matching the wrong standard to the lesson 3) Failure to identify a standard or indicator well matched to a selected lesson
	Stating intended learning outcomes	<ul style="list-style-type: none"> 1) Intended learning outcome not related to a specific indicator of a standard (high frequency) 2) Intended learning outcome not related to expectations made of students
	Identifying or correcting Student work errors	<p>No corrections provided, often with statement of approval</p> <p>Student errors not noticed: mealworm becomes a butterfly, a moth, a beetle in three different work samples</p>
	Selecting or stating indicators	<ul style="list-style-type: none"> 1) Far too many indicators stated 2) Incorrect grade level indicator selected 3) Indicator selected not matched to responses expected of students
	Concluding that student work did or did not meet an indicator of a standard	<ul style="list-style-type: none"> 1) Conclusion that outcomes or indicators were met without supporting documentation 2) Concluding that all indicators state were met when only one or two were met

Error Category	Type of Error	Example or frequency
Omission of a required element - Principals	Type of Omission	Frequency: Low: 25% rate or lower Medium: 25-50% High: over 75%
	Failure to affirm teacher's Commentary about student Work	High: only two principals provided commentary
Error in performance of a required element - principals	Type of error	<u>Example</u>
	Principal confirms student work meets indicators of standards when in fact it does not	Principal made blanket statement that student work met standards with no commentary on student work or teacher's plan

Some difficulties experienced by teachers can be seen in representative samples of analyzed lesson plans and student work samples submitted with the lesson plans. Figure 3 provided below provides an overview of some problematic situations that arose upon matching teacher lesson plans to the standard and framework most closely related to the lesson topic.

Fig. 4

Teacher Lesson and Student Work Sample Analysis
A sample from the findings

Teacher	Grade Level	School	Comment
#4	1	Smith	published limited response sheet fails to elicit student evidence of learning related to intended learning outcomes
#6	2	Smith	students submitted quite varied numerical counts of body parts of an organism with no commentary by the teacher
#7	3	Smith	teacher identified two concepts not identified in the standards and stated that students would learn to state and answer a hypothesis. Students responded to a worksheet but their answers were not related to lesson concepts of the standard and wrong answers were not corrected.
#12	4	Smith	teacher states three concepts related to standards, no evidence that concepts have been attained by students. Knowledge of good experimental design is stated as a concept to be conveyed, yet evidence of tally marks is not accompanied by student understanding of features of an experiment beyond making tally marks. Further, students were to observe and Classify the life cycle of an organism But evidence consists of commercial Representation of organism with printed Body part labels.
#13	5	Smith	students copied names for body parts of an organism on to a facsimile illustration – no evidence of cognitive engagement or challenge – students only copy terms from text drawing to identical illustration

Teacher	Grade Level	School	Comment
#14	not given	Smith	Five learning outcomes stated with evidence for achievement of only one of them... illustration copying, labeling and coloring. Teacher states a concept central to the Standards, but no student evidence that The concept is dealt with by children.
#15	4	Smith	Lesson plan provided includes no reference to standards addressed by the activity. Although the teacher states, "students Concluded mealworms prefer darker Colors," it appears the teacher wrote this Conclusion on each sample of student work Submitted making it difficult to distinguish actual student work from teacher artifacts.

Discussion

The New Jersey teachers who participated in the study experienced substantial challenges in both planning standards-based lessons and eliciting student work samples that demonstrated proficiency in a selected standard. Each of the teachers in the study participated in a summer teacher training sessions that extended into the following academic year. The teacher training sessions focused on curriculum and learning activities that were aligned with the New Jersey Core Curriculum Standard in Science. The most frequently selected activity used by the teachers was recommended in the New Jersey Science frameworks as an excellent activity that is well related to the skills and knowledge described in the frameworks. Teachers also learned about the structure and use of the standards in preparing a standards-based lesson. Despite the good intentions of the professional development program and the use of the aligned curriculum materials, most teachers in the study were not able to perform all three of the intended functions: prepare a lesson plan based on a selected standard, obtain standards-meeting student work from students, and evaluate the student work in relation to the expectations of the

selected standard. For the most part, teachers performed traditional tasks of writing a conventional lesson with an instructional objective that did not identify a NJ standard. Further, teachers wrote holistic, typically laudatory comments on the student work samples that did not provide students with feedback comparing their work with the expectations of the standards. A summary of observed problems is provided in figure 5:

Fig 5

Summary of observed problems exhibited by teachers
Attempting to plan and implement a standards-based lesson

Error Type	Manifestations
Standard Selection	Teacher identified a standard that did not include the central concept of the lesson. The proper standard for the lesson was not selected. Excessive standards selected for one activity. No standards stated at all.
Indicator Selection	Too many indicators selected for one activity. Standard stated but no indicators provided. Indicators selected from wrong grade level ranges. Indicator selected is unrelated to stated objective of the lesson. Indicator not achievable through activity selected
Statement of Objective	Objective stated is unrelated to responses to be provided on work sheets. Objective is unrelated to the standard or indicator selected for the lesson. Objective is vague or describes general knowledge and not intended student learning.
Performance descriptions And selected activities for Students	Expected student work does not achieve the selected indicator or only part of the indicator. Responses do not address essential concepts of the standard or indicator. Activity misinterprets the meaning of the standard or indicator. Student work product is commercially prepared, addressing the indicator tangentially and/or requires superficial responses from students that will not meet expectations of the indicator. Many expected activities do not contribute to student progress toward the indicator: tracing, transcribing text, coloring, labeling. Teacher failed to state student expected performances that will meet the objective or intended learning outcome.

Error Type	Manifestation
Teacher appraisal of Student work samples	Teacher provides answers for responses that are merely transcribed by students, errors not detected or corrected, responses that are superficial or incomplete declared by teacher to meet an indicator or standard. Misconceptions and misinterpretations of students uncorrected by the teacher. No evidence that essential concepts of the standard have been addressed in student responses.
Principal appraisal of Teacher's lesson and Student work evaluation	<p>Principal declares that lessons meet expectations of standards based teaching when essential elements e.g., standard selected, indicator selected, objective or intended learning outcomes missing.</p> <p>Principal states student work samples meet standards when samples contain incorrect responses, items unrelated to the standard or indicator selected, or consist of unenhanced or unmodified worksheets with superficial response requirements unrelated to the standard or indicator selected.</p>

The results of this study suggest that alignment of curriculum with the standards and training teachers to teach with the aligned curriculum is not sufficient to elicit student proficiency with the skills and knowledge of the standards. A review of the challenges experienced by the teachers suggests that teachers need to learn how to plan a standards-based lesson that focuses on the achievement of outcomes related to the standards rather than simply conducting an activity aligned with the standards. Furthermore, teachers need to learn how to evaluate student work samples in relation to the performance outcomes included in the standards-based lesson. Based on the findings of this study, the following recommendation is made regarding important components of a standards-based lesson. These components could be included in the curriculum of teacher education programs at both the pre-service and in-service levels. The authors have prepared prototype training materials to help teachers prepare standards-based lessons with these components in mind.

Five essential components of standards-based lesson planning

The study suggests that teachers cannot elicit standards-meeting student work by simply teaching with standards-aligned curriculum resources. The fundamental explanation for this finding is the fact that teachers, not curriculum materials, set learning expectations for students. Curriculum materials are useful resources for meeting learning expectations but teachers alone can determine the nature and quality of student work that will constitute a standards-meeting learning performance. Teachers can set higher expectations that meet the standards if they begin their lesson planning with the expectations of the standards in mind. To begin this process, teachers must be careful to select the correct standard and correct indicator in relation to the current level of performance of their students. The selection of a proper standard and a proper indicator is the first essential component of standards-based lesson planning.

Selecting the proper standard and indicator

When teachers use standards-aligned curriculum materials as the sole means of meeting the standards, they are not given the opportunity to consider deeply the higher expectations that the state frameworks describe for their students.

Our research has shown that the mere use of standards-aligned curriculum resources often fails to result in higher expectations for student work. Consider these frequently observed errors based on the analysis of lesson plans prepared by teachers who were not provided with instruction in standards-based lesson planning:

1. Too many standards or indicators selected for one lesson,
2. The wrong standard is chosen in relation to the curriculum materials selected for use
3. The standard or indicator selected is at the wrong grade level
4. The standard or indicator selected is not matched to the essential concepts of the lesson
5. Student activities and work products selected for a lesson will not elicit performances related to the standard or indicator chosen.

It is our belief that increased expectations for student work must arise from close consideration of the learning expectations embedded within the standards and indicators. The selection of a proper standard and indicator matched to the learning needs of students and the curriculum resources available are a challenging task with opportunity for error. It is a task that must be taught and practiced.

Identifying the learning expectations of students related to the selected indicator

The frameworks include teaching ideas, suggestions for finding instructional resources, and other tips for teachers. While these ideas are helpful, it is the student learning expectations found in various locations within the frameworks that demand close inspection by teachers. These statements form the basis of the state's covenant with teachers and students. These statements will be used by the state to formulate tests items on standards based exams. The selected standard and indicator and the descriptive statements pertaining to the selected indicator are the critical state-provided inputs to the standards-based lesson. From these inputs decisions about curriculum are made, not visa versa.

Translating learning expectations into descriptions of student performances

The translation of student learning expectations found within the frameworks into student performance descriptions is the most difficult and challenging part of the standards-based planning process. It is our belief that teachers must be given the opportunity to meet this challenge collaboratively. Whether working in grade level teams at the elementary level or within academic departments at the secondary level, team planning results in the best set of well written, comprehensive student performance descriptions. When completed, these statements constitute the intended learning outcome that the lesson holds for students. It is the target for student learning that meets the expectations of the standards. Student performance descriptions within the intended learning outcome are used to select curriculum resources and to enhance instructional activities provided by publishers. Teachers use student performance descriptions to select curriculum, prepare instructional

tasks, and evaluate student work samples. They are the keystone of the standards-based lesson plan.

Selecting and enhancing curriculum resources in order to elicit standards-meeting student work

California standards-meeting student performances are rarely called for in worksheets and response sheets provided by publishers, including those that have successfully submitted standards-aligned text materials for the state adoption process. While learning activities and descriptive narrative may meet some indicators and partially meet others, student worksheets and response sheets typically address only part of the learning expectations found in the narrative of the frameworks. Moreover, they often do not demand the higher-level reasoning expected of the standards. Rather, they rely heavily on factual recall. It is up to teachers, working collaboratively, to upgrade and enhance publisher's materials in order that students will provide the performances and products that evidence standards-meeting learning

Evaluating student work products in relation to the performance descriptions of the lesson

The rewards of planning standards-based lessons go unrealized unless teachers, working collaboratively, have the opportunity to evaluate student work in relation to student performance descriptions. When teachers meet to decide which work samples submitted by their students are "good enough" in relation to the expectations of the, they begin to truly understand how their student are performing in relation to the expectations of the standards. This needs to be a regularly scheduled event with a frequency of no less than once every two weeks. Teacher need to know how their students are performing in relation to the expectations they have set for them that are derived from the standards.

Conclusion

Teacher preparation programs, professional development programs and induction programs for new teachers should consider these recommendations as they develop their curricula in teacher education. If further study validates the findings of this early effort in examining instruction in standards-based settings, changes will need to be made in teacher education curricula and support services to help teachers and children in meeting the challenges of the standards.

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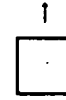
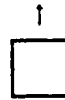
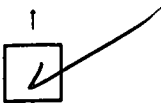
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November 4, 2002

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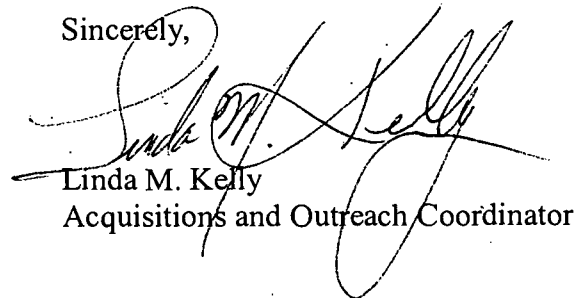
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