A PDS Partnership Goes International

Phase I of an American-Slovenian Collaborative Research Project

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Abstract

The focus of the article is on Phase I of an American-Slovenian collaborative research project that was aimed at investigating effective classroom teaching-learning performances. The international project involved Dowling College and its first Professional Development School (PDS)—the Belmont Elementary PDS—and the University of Primorska at Koper and its partnering elementary school, the Dr. Aleš Bebler School. As part of the first phase of the project, a video-based action research study was conducted to analyze and assess video-taped lessons taught by American PDS teacher candidates and Slovenian student teachers. Based on the findings changes were made to aspects of the teacher education programs and their respective school-university/college partnerships. For purposes of this article the authors present an overview of Phase I of the project, a working conceptual framework for the project, and selected findings of the Phase I video-based action research study.

Introduction and Overview

In May of 2007 a letter of understanding was signed by representatives of four institutions agreeing to engage in a collaborative research project that came to be known as the American-Slovenian Collaborative Research Project on Effective Classroom Teaching Performances. Phase I of the international project involved Dowling College and its first Professional Development School (PDS)—the Belmont Elementary PDS in America—and the University of Primorska at Koper and its partnering elementary school, the Dr. Aleš Bebler School in Slovenia. The first study of the project focused on investigating videotaped performances of teacher candidates (i.e., student teachers) and their pupils in classrooms of the partnering elementary schools. The study involved cooperating teachers, supervising and mentoring teachers, teacher candidates, graduate students, professors, and administrators. The long-term goals of the collaboration are to (a) develop quality teachers, (b) investigate effective teaching-learning performances in school-university partnerships and PDS settings, and (c) contribute to the body of knowledge on teaching and learning. The goals and outcomes of Phase I (2007-2009) of the collaborative project included the following:

- 1. The development of a data bank of findings and 62 videotaped teaching performances of lessons taught by student teachers in grades 1 through 5 in collaborating classrooms.
- 2. Creation of a working conceptual framework for the collaborative research project.
- 3. The design and implementation of an initial action research study to analyze and assess 34 performances of the lessons taught by participating Slovenian and American PDS teacher candidates.
- 4. Adaptation of three existing observational tools, rubrics, and procedures for analyzing and assessing classroom teaching performances.
- 5. Dissemination of the analyses and comparisons of American and Slovenian classroom teaching performances at national and international conferences.
- 6. The publication of a book in 2009 describing the two-year study entitled *Analyzing Effective Teaching Performance*.

A contemporary theoretical description of the teacher's role as an effective facilitator of student learning formed the basis and perspective from which our initial investigation was designed. Based on our ultimate goal to develop teachers as effective facilitators in PDS settings, and our intent to institute educational change and improvement, we chose action research as the method and process for the first study. Our source of data was a set of 34 videotaped performances of lessons taught by 20 American PDS teacher candidates and 14 Slovenian teacher candidates. All 34 taped performances were coded, analyzed, and assessed using an adapted observational system, and a set of adjusted rubrics and assessment

criteria from the PATHWWISE program (Educational Testing Services [ETS], 1995) and the National Board's *Middle Childhood/Generalist Standards Scoring Guide* (Nation Board for Professional Teaching Standards [NBPTS], 1998).

The taped performances of the lessons were analyzed and assessed with reference to a series of instructional actions that were drawn from teacher effectiveness research (TER) and the research teams' conceptualization of the teacher as a new and effective facilitator of student learning and development (see Catelli, 2002, 2010; and Catelli, Likon, Vonta, & Pisot, 2009, for a description of the teacher's role; and Muijs & Reynolds, 2005, for TER). A quantitative approach to the analysis of the teaching performances provided us with percentages of time the teacher candidates engaged in 12 key instructional classroom actions. A qualitative approach to the analysis of the same teaching performances provided the research teams with information about "how well" the candidates performed specific instructional acts that are known from the literature to facilitate student learning, e.g., encouraging students to extend their thinking, making content comprehensible, etc. The rubrics and assessment criteria were used by the researchers to measure how well an instructional act was performed. Thus, both types of analyses provided the American and Slovenian research teams with video profiles of classroom teaching that could eventually be linked to student learning, growth, and achievement.

During the two years of Phase I of the project (2007–2009), research activities took place at both sites to assess and compare teacher candidate classroom performances of lessons taught to youngsters in the partnering schools. Members of the project visited the schools to implement their plans and exchange information. Also, they presented their work together at national and international conferences (e.g., Catelli & Likon, 2007; Catelli, Likon, Jackson, Carlino, & Pisot, 2008; and Catelli & Pisot, 2009). In addition to the research activities, the project included a seminar and workshop on effective teaching that was conducted in Slovenia by the American team's principal investigator. Also, a grant award from the U.S. Embassy was obtained to support project activities. The workshop was attended by teachers from Italy, Croatia, and Slovenia.

For the first study, a set of general research questions (below) were formulated by the researchers and then arranged in a cluster and classified as either quantitative or qualitative. The unit of analysis for the study was the teacher candidate's videotaped performance of a lesson. The lessons were taped during a candidate's second month of student teaching. The objectives and learning outcomes of the lessons were directed at either the development of a skill or an understanding of a concept. Lessons ranged from 30 minutes to 1.5 hours and took place in different subject areas, e.g., science, mathematics, social studies, etc. The following questions were designed for the study:

Quantitative Questions

1. How is time spent during a lesson? How do the American and Slovenian teacher candidates as novices spend their time during a lesson? What

percentage of the time do they engage in substantive instructional interactions that are focused on subject matter, and what percentage do they engage in managerial, organizational, and disciplinary actions that are considered nonsubstantive or not relevant to the subject matter? Are there important differences between the groups?

- 2. Is the percentage of time that candidates devote to substantive actions more or less than 75% of the total time of a lesson? How many of the lessons meet the 75% criterion?
- 3. Of the total time the candidates engaged in substantive instructional actions focused on subject matter, which of the 12 substantive instructional actions (e.g., asking higher-order questions, giving feedback) did they engage in and for what percentage of the time? Are there differences between the two groups?
- 4. What percentages of time are students cognitively and/or physically "on task" and engaged in the learning activities? And what percentages of the students who are present for the lessons are "on task" and engaged?

Qualitative Questions

- 1. Using adapted rubrics and performance criteria from Educational Testing Services' PATHWISE (ETS, 1995) and the National Board's scoring guide (NBTS, 1998), how well did the teacher candidates perform 9 desirable instructional actions that are known from research to facilitate learning? How many of the teaching performances met the 2.5 criterion set for each of the 9 instructional actions? Do the American and Slovenian teacher candidates perform at or above the 2.5 criterion level of competency?
- 2. What methods of teaching do they use to achieve the objectives of the lesson? And are their video performances in accord with current teacher effectiveness research findings?
- 3. What will the findings from the first action research study mean for improving the partnerships and teacher education programs of the four participating institutions? And what will the findings mean for changing and improving the performances of teacher candidates and their supervisors at both partnership sites?

The action research study for Phase I primarily focused on teacher candidates as novice teachers engaged in the clinical portion of their programs. The project was unique in that it was the first time two institutions of higher education and their partnering elementary schools engaged in a four-way international research collaborative to investigate effective teaching and teacher education in a coordinative fashion. And it was unique in that never before has videotape analysis been used in such a four-way collaboration to research novice levels of teaching.

By June of 2009, the research teams had completed the first study of the international project with the publication of a book. Findings of the study and a complete

description of the project may be found in the book. For purposes of this article members of the American team will provide in the following sections detailed information about Phase I of the project. More specifically, the authors will

- 1. explain the working conceptual framework for investigating effective teaching-learning performances in PDS and partnership settings;
- 2. briefly describe the teacher's role as a new and effective facilitator of student learning;
- 3. identify the classroom actions that were observed and the adapted observational tools employed in the study; and
- 4. present selected findings as exemplars of Phase I's video-based action research study.

A Working Conceptual Framework for the Project: Five Broad Areas

The first two tasks the researchers engaged in involved a review of the relevant literature on teaching and learning, and the creation of a framework for conceptualizing and researching teaching-learning performances. Borrowing from other research-based frameworks to identify "what teachers should know and be able to do" (e.g., Darling-Hammond & Baratz-Snowden, 2005; Danielson, 1996, 2007; National Council for the Accreditation of Teacher Education, 2002) we focused our efforts more particularly on the "be able to do" part of the statement. Also, we targeted the area that authors Darling-Hammond and Baratz-Snowden in A Good Teacher in Every Classroom had identified as "knowledge of teaching" (2005 p. 6). We emphasized "performative knowledge" and its translation to classroom actions, interactions, and teaching-learning performances. The resulting framework is used to guide our research activities and assist us in interpreting data and findings from our studies. We envision that the effective classroom instructional actions we identify from all our investigations will be placed on a teaching continuum. The continuum will include a range of teaching profiles that are linked to student learning outcomes that are representative of novice, practicing, and veteran teachers. The information generated by the studies will be used to improve student learning and professional education in a coordinative manner.

The working conceptual framework for the project seen in Figure 1 has five broad areas for investigating effective classroom teaching-learning performances. These include the following:

- 1. Contextual features and characteristics, i.e., classroom, institutional, crossnational, and sociocultural factors (Area A).
- 2. Engaging in the teaching–learning process, to include various conceptualizations or views of teaching and learning (Area B).

- 3. Creating and/or maintaining the social climate of the classroom and building teacher—pupil relationships (Area C).
- 4. Using newer technology and modern instructional instruments or delivery systems to assist learning (Area D).
- 5. Pupil learning outcomes, engagement, and achievement, and/or teacher-oriented goals and professional development outcomes (Area E).

Area A of the framework identifies the context within which the research takes place. The area includes the partnership's contextual characteristics, features, and factors that are thought to influence teaching and pupil learning (i.e., class size; population of the school; urban, suburban, or rural location of the school; school culture, norms, and policies; the partnership's mission, vision, etc.). The next three areas of Figure 1 (Areas B, C, and D) are associated with the categories of core knowledge identified by Darling-Hammond and Baratz-Snowden (2005). These three areas are action oriented. They are the instructional methods, actions, interactions, interpersonal acts, practices, and teaching skills that make up a teacher's classroom teaching performance.

Area B, engaging in the teaching-learning process, is designed to encompass various concepts or views of teaching and learning, i.e., constructivist view, etc. Regardless of one's concept of teaching, all of the aforementioned areas are linked to the teacher's intended academic and social learning goals and outcomes for pupils (Area E). Or they are linked to the teacher's goal of becoming an effective teacher. Therefore, Area E includes goals and outcomes associated with improving teacher preparation programs, as well as goals for enhancing a

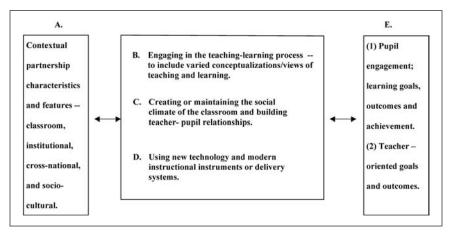


Figure 1. An initial working conceptual framework for the American-Slovenian collaborative research project: Five broad areas.

teacher's own professional development as he or she strives to improve his or her effectiveness in the classroom.

The reader will note that the arrows go in both directions. The conceptual framework is a dynamic system. To illustrate, Areas B, C, or D may be studied for their effect on Area E, or the reverse may be planned for and enacted. For example, we may examine a teacher's instructional actions for their effect on developing pupils' problem-solving abilities. Or we may examine pupils and their development of problem-solving abilities in order to design instructional actions that will facilitate each stage of their development. Findings from such studies may in turn initiate change in class size, a contextual factor of the framework. The areas may be studied separately at first and then in relationship to one another. Eventually, we will focus the research on the links and connections among and between the areas as a holistic entity. Such information will assist us in determining the effectiveness of the teacher's classroom teaching performances.

The conceptual framework is also designed to be flexible enough to accommodate a range of research studies. Ultimately, we are also striving to coordinate change in preservice and inservice teacher education for the improvement of student learning. To reiterate, Areas B, C, and D seen in Figure 1 are categorized as performances. They are labeled as performative knowledge—"knowing how and being able to." Area E is meant to include contemporary learning goals and outcomes such as critical thinking, media literacy, and problem solving. Also, Area E is structured in a way so as to include the goals teachers design to increase their level of effectiveness.

The first study of the project focused on Area B, "engaging in the teaching-learning process." It was categorized as a naturalistic, video-based action research study directed at observing, analyzing, and assessing videotaped performances of lessons taught by teacher candidates. We use the term *naturalistic* here because we did not require the candidates or their supervising teachers to do anything different than what they would have normally done before, during, or after a lesson. The aspects of classroom actions we observed were drawn from our review of teacher effectiveness research (TER), and they were based on our conceptualization of the role of the teacher as a new and effective facilitator of student learning.

Brief Description of the Teacher's Role as an Effective Facilitator of Learning

Prior to the study both research teams had acknowledged the fact that current advances in technology and the emergence of cognitive views of teaching and learning had significantly transformed what teachers do on a daily basis. Also, the teams clearly recognized that teachers were no longer dispensers of information but rather newer facilitators of student learning in classroom and digital environments (Catelli, 2002; Catelli, Likon, Vonta & Pisot, 2009; Bransford, Brown, &

Cocking, 2000; Darling-Hammond & Baratz-Snowden, 2005; and Darling-Hammond & Bransford, 2005). The teacher of today and in the future is a facilitator of the student's development of 21st-century skills, e.g., critical thinking, collaborative, and technological skills. As a facilitator of student learning, a teacher must develop an adaptive expertise to be effective in diverse classrooms (Darling-Hammond & Bransford, 2005). Also, he or she must possess an understanding of how students develop, integrated with how they learn subject matter—skills, knowledge, values, etc.,—and how they become lifelong learners.

In this newer conceptualization of the teacher's role, effectiveness is represented by individuals who can demonstrate good practice and perform instructional actions in a consistent manner to regularly effect learning. Newer facilitators intentionally perform instructional acts and interactions that are directed at and supported by evidence of student learning, growth, and achievement (Catelli, 2002). Their patterns of interactions emerge from their conscious or tacit awareness of the situation. Effective facilitators are able to successfully adapt to different situations and perform under varied conditions. That is, their performances are actualizations of the different forms of knowledge (e.g., verbal and performative). At advanced levels, their teaching performances are illustrations of their capacity to think what they are doing while doing it and to think in such a way that the learning goal for each and every student is realized (Catelli, 2005). This theoretical description and conceptualization of the teacher's role continually guides our research and the PDS partnership's mission to improve education.

The Observed Instructional Actions and Observational Tools

Based on our conceptualization of the teacher's role as a new facilitator, and on a review of the relevant literature, we selected a set of 12 teacher–student instructional actions to observe for the first research study. The instructional actions and events identified below were adapted by Catelli (Catelli, 2010; Catelli & Carlino, 2001) from an existing observational instrument entitled the Flanders Observational Category System of Interaction Analysis (Flanders, 1960, 1970; Gay & Airasian, 2000). The original Flanders System had 10 categories that represented and defined classroom interactions. In Catelli's adaptation of the system, there are 12 major classroom teacher–student actions that form the categories of the system. The 12 categories are grouped into "substantive instructional actions" that focus on subject matter and "non-substantive classroom actions" that are defined as managerial, or organizational and disciplinary actions. The 13th category includes other classroom actions or events that may occur but are not categorized in any of the 12 categories of the system, e.g., fire drills, announcements.

Substantive Teacher-Student Categories of Instructional Actions

1. Accepts feelings/sets the social climate and creates a sense of community 2a. Praises or encourages.

- 2b. Gives corrective feedback.
 - 3. Accepts, uses, or extends ideas of students.
 - 4. Asks questions: (a) lower-order, (b) higher-order.
 - 5. Lectures or presents information: (a) to the whole group, (b) to a small group, (c) to an individual, (d) articulates the goal or expectation
- 6b. Gives directions (subject matter directions for learning a skill or concept).
- 8a. Student talk: student responds to a question.
- 8b. Student engagement: participate in a task/activity or discussion groups.
 - 9. Student talk: student initiates a comment or question.
- 10b. Teacher observes.
- 10c. Wait time.
 - 11. Teacher illustrates/demonstrates and talks.
- 12. Teacher talks and student illustrates/demonstrates.

Non-Substantive Teacher-Student Categories of Instructional Actions

- 6a. Gives directions (i.e., directions for managerial and organizational purposes).
 - Establishes or enforces codes of behavior: disciplinary actions (nonverbal acts included).
- 10a. Silence and/or confusion.
 - Other classroom behaviors or events

An observer who uses the adapted observational tool records a category number that represents a teacher or student action for a specified interval of time, e.g., 5 seconds. For the first part of the study, we were interested in capturing (a) the occurrence of an action, (b) the extent to which the teacher candidates and their students engaged in an instructional action, and (c) the percentage of time they devoted to or engaged in an action. The results provided us with information to answer our questions about how time was spent by the American and Slovenian teacher candidates during a lesson. Also, the results provided us with information about which instructional actions the candidates engaged in to achieve the objectives of the lesson. A criterion level of at least 75% of the total time spent in "substantive instructional actions" was set for the taped performances of lessons. This performance criterion was identified in the literature as the suggested minimum time needed in a lesson to positively impact student learning (see Kauchak & Eggen, 2007).

In the second part of the study, we adjusted and used a set of existing performance criteria and rubrics to assess 9 instructional actions that are known from research to promote learning. The 9 instructional actions listed below were extracted and adapted from Educational Testing Services' *PATHWWISE*—Domain C (ETS, 1995); Charlotte Danielson's framework for teaching (1996, 2007); and the National Board for Professional Teaching Standards' (NBPTS) *Middle Childhood/Generalist Standards Scoring Guide* (NBPTS, 1998). The use of the rubrics provided us with information about how well the candidates performed the following instructional actions.

ETS PATHWISE—Domain C: Instruction

- 1. Making learning goals clear to pupils.
- 2. Making instructional procedures clear to pupils.
- 3. Making content comprehensible to pupils.
- 4. Encouraging pupils to extend their thinking.
- 5. Monitoring pupils' understanding of the content through a variety of means, questions and providing feedback to pupils to assist their learning.
- 6. Adjusting learning activities as the situation demands.
- 7. Using instructional time efficiently and effectively.

National Board for Professional Teaching Standards

- 8. Building a classroom community.
- 9. Building an understanding.

From past research, it was found that each of the 9 instructional actions positively affect learning. In our study, an acceptable score or rating for each of the 9 instructional actions was set at 2.5. Thus, a rating of 2.5 represents a competent level of performance by a participating teacher candidate. Scores or ratings ranged on a scale from 1.0 (low) to 3.5/4.0 (high). Each of the ratings represents a rubric descriptor by the NBPTS or performance criteria identified by ETS's PATHWISE. The ratings are indicative of levels of performance. Trained observers assess the teacher candidate's performance during the lesson for each of the 9 instructional actions according to the rubrics and performance criteria. A 2.5 criterion was set as an acceptable level of performance. This was done so we could determine whether or not the teacher candidates had achieved basic competency for performing an instructional act. Also, a 2.5 criterion was set in accordance with the goal of eventually having the candidates "be able to" impact pupil learning on a consistent basis over a series lessons. The quantitative and qualitative analyses of the videotaped classroom teaching performances provided us with an in-depth profile of the candidates as a group and as individuals.

Selected Findings of the Initial Action Study of Phase I

In this section we present two of the key findings of study of Phase I of the collaborative research project. Our intent is not to report on all of the findings of the study but rather to provide readers with selected findings as samples or exemplars of the project. We have organized the section according to the cluster of general research questions and the type of approach we used to analyze performances. The section concludes with a final statement about Phase II of the project.

Quantitative Analysis of Performance

1. How is time spent during a lesson? How do the American and Slovenian teacher candidates as novices spend their time during a lesson? What percentage of

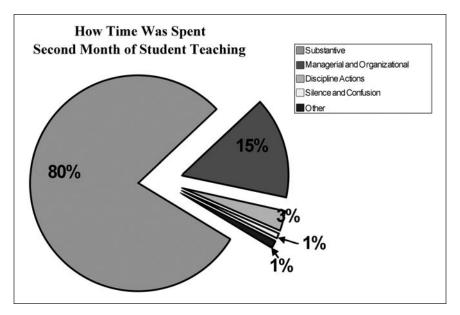


Figure 2. Percentage of time the American PDS teacher candidates (n = 20) devoted to substantive instructional actions focused on subject matter and non-substantive actions defined as managerial, organizational, and disciplinary actions.

- the time do they engage in substantive instructional interactions, and what percentage do they engage in managerial, organizational, and disciplinary actions? Are there important differences between the populations?
- 2. Is the percentage of time that candidates devoted to substantive actions more or less than 75% of the total time of a lesson? How many of the lessons met the 75% criterion?

As shown in Figures 2 and 3, the American (n = 20) and Slovenian (n = 14) populations of teacher candidates spent 80% and 93% of the total lesson time engaged in substantive instructional interactions focused on subject matter. The total time devoted to managerial and organizational functions was 18% for the American population and 5% for the Slovenian population. Both groups and most of the candidates met the 75% criterion that was set as a standard or measure of basic competency.

This was an extremely positive finding for both partnership programs in that it indicated to us that in just a short period of time in a classroom (second month of student teaching) the candidates were able to maximize instructional time to focus on subject matter and minimize discipline and management time. The

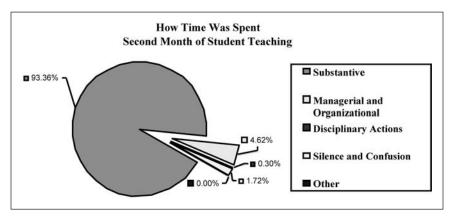


Figure 3. Percentage of time the Slovenian teacher candidates (n = 14) devoted to substantive instructional actions focused on subject matter and non-substantive actions defined as managerial, organizational, and disciplinary actions.

positive finding may be attributed to the effectiveness of the teacher preparation programs, school policies and/or the candidates' cooperating and supervising teachers. Further investigation would be needed to determine if one or all three are factors that influenced the outcome. In any case, it appears that management and discipline are not areas of concern for either population of candidates or their respective programs. Also, the finding indicated to us that the candidates were able to provide ample time during their lesson for students to learn. This is an important piece of information for us as we design studies for Phase II of the research, which then links teacher actions to student learning and growth.

We noted a difference of 13% between the American and Slovenian populations. Upon closer examination of the lesson data we found that three of the American teacher candidates who had lower scores had conducted their lessons in science using "group investigation" as the instructional method. Group investigation involves complex organizational and managerial skills. This finding suggests to the American team that the teacher education program may need to provide candidates with more opportunities to practice the implementation of the method and its associated management techniques.

Qualitative Analysis of Performance

1. How well did the teacher candidates perform 9 desirable instructional actions that are known from research to facilitate learning? How many of the teaching performances met the 2.5 criterion set for each of the 9 instructional actions? Do the American and Slovenian teacher candidates perform at or above the 2.5 criterion level of competency?

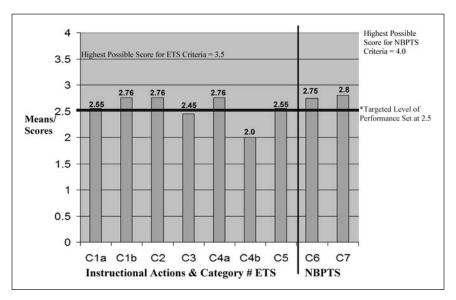


Figure 4. Mean performance scores of American PDS teacher candidates (n = 20) on 9 instructional actions. Second month of student teaching.

Figures 4 and 5 present data regarding how well both populations performed specific instructional actions. In reviewing the data we noted that the American population achieved a mean score or rating of 2.5 or higher for 7 of the 9 instructional actions. The 2 instructional actions for which their performances fell slightly below 2.5 were: (a) Category 3, encouraging students to extend their thinking (2.45); and (b) Category 4b, adjusting the learning activities as the situation demands (2.0). Both of these instructional actions are difficult for student teachers to perform at higher levels in the initial months of their student teaching. In fact, we were quite surprised that the mean scores were as high as they were for all of the instructional acts. Categories 3 and 4b are instructional actions that require knowledge of the students and in-depth knowledge of the content.

On the Slovenian side, as shown in Figure 5, we found that the candidates' performances achieved a mean criterion score of 2.5 or above for all of the 9 instructional actions. For Category 4b, adjusting learning activities as the situation demands, their mean performances were at the 2.54 level. The next 2 instructional actions in descending order were (a) Category 3, encouraging pupils to extend their thinking (2.71); and Category 6, building classroom community (2.68).

Some of the differences between the American and Slovenian populations were attributed to the fact that a few of the Slovenian teacher candidates had had classroom teaching experiences prior to the study. We suspect this caused the

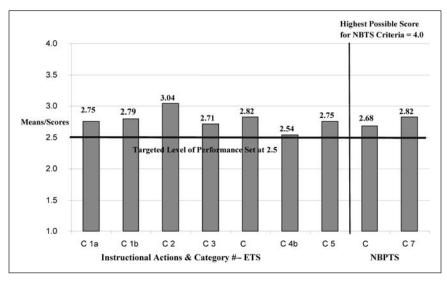


Figure 5. Mean performance scores of Slovenian teacher candidates (= 14) on 9 instructional actions. Second month of student teaching.

higher scores achieved by the Slovenians. Also, it was noted that their supervisors oftentimes would interject comments during a lesson to correct a candidate's action on the spot. In general, our preliminary examination of all the data revealed that the American and the Slovenian populations of teacher candidates engaged in substantive instructional actions and interactions for high percentages of time during a lesson. Their performances were reflective of newer facilitators of learning. The candidates, as a group and as individuals, had high percentages of students "on task" and "engaged" for more than 75% of the total time for a lesson. We are of the opinion that the high percentages of student engagement were attributed to the candidates' use of instructional methods that were more student centered. Candidates used such methods as group investigation, cooperative learning, jigsaw, etc.

The major instructional actions for which both populations might improve were asking high order questions, asking probing questions, giving corrective feedback, articulating the goal or objective of the lesson, and extending student thinking. Based on these findings, changes were made to the clinical portion of the American teacher education program and the PDS partnership. Also, content was revised for courses that precede a candidate's student teaching experience at the PDS.

It is worth mentioning that other teams of American PDS action researchers have conducted video-based studies during Phase I to analyze effective teaching

and improve classroom teaching at the PDS.¹ The studies included the use of additional rubrics extracted from Performance Assessment for California Teachers (PACT, 2007). Also, Phase II of the project, which began in 2009, involved the design of studies that link classroom teaching actions to student learning. Additional studies to investigate the effects of instructional methods on student growth and achievement are in the process of being designed. Ultimately, we intend to contribute to the research on effective classroom teaching and teacher education in a PDS partnership setting.

Notes

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