

Using the Teacher Work Sample to Assess the Impact of PETE Program Changes Upon Student Teachers' Performance

Carol L. Phillips and Rip E. Marston

Abstract

The effects of Physical Education Teacher Education program modifications upon selected characteristics identified with effective teaching were assessed utilizing the Teacher Work Sample (TWS). Data were collected from all student teacher candidates during the 2002 student teaching sessions. Based upon the 2002 data, interventions were made to a senior physical education methods class. Data were again collected during the 2004-2005 student teaching sessions. Comparisons were made between the student teaching sessions for the physical education teaching candidates and also compared to all teaching candidates for the same time periods. Results indicated significant gains were made by the physical education teaching candidates from the first student teaching session to the second student teaching session on four of the seven Teacher Work Sample elements. The results suggest that the designed interventions were effective in enhancing those teaching processes assessed on the TWS.

The student teaching experience has become the stalwart culminating endeavor of the American educational system in which assessment is made of not only the teacher education candidate but of the physical education teacher education (PETE) program as well. It is during the student teaching time period that the quality and quantity of the past experiences and preparation of the PETE candidates are put on

display. Most PETE programs in the United States provide an array of designed, sequential field experiences for their undergraduate teacher education candidates that usually culminates in a student teaching practicum or internship. It is during this practicum that the teacher education candidate is provided an extended period of time to demonstrate those attitudes, skills and dispositions associated with effective teaching.

The United States teacher preparation system is not unique in requiring a student teaching practicum. Wang and associates (Wang, Coleman, Coley, & Phelps, 2003) surveyed seven countries in addition to the United States to develop a profile of the different teacher preparatory systems. The researchers reported that all countries surveyed (England, Netherlands, Australia, Singapore, Hong Kong, Korea, Japan, and the United States) required student teaching or other in-school practical experiences. The duration of the practical experience ranged from 3 to 4 weeks in Japan to the Netherlands' requirement of from 12 to 18 months. The United States was listed with a minimum practical experience requirement of 12 weeks.

The student teaching component is usually conducted under the guidance of a master teacher/mentor and a university coordinator who structure the teaching opportunities for the teacher education candidate. How should PETE programs structure the student teaching practicum and which experiences should be provided the teacher education candidates are important aspects to

consider. These are not new issues for teacher preparatory programs. Lee and Solmon (2005), in a review of pedagogical research articles appearing in the *Research Quarterly for Exercise and Sport* counted thirty articles on teacher education as early as the time period from 1930 to 1940. Common topics within these articles included qualifications of those training the teachers and the role that practice teaching should play in the preparatory process.

Many consider student teaching a “capstone” experience of the undergraduate teacher preparatory program. This is the time when the “rubber hits the road” for not only the physical education teacher candidate’s abilities but also for the quality of the physical education teacher education program as well. Teacher education faculty will often capitalize on the preservice teachers’ perception of having a field experience in the “real world” to validate the basic course/program concepts of the university. McDermott, Gormley, Rothenberg, & Hammer (1995) investigated the impact of field experiences upon perceptions held by student teachers about teaching and reported that a major value of field experiences was that they allowed the students to connect their university course work with their field based school experiences.

The field experience setting also provides the teacher education faculty with the opportunity to assess their own ability to assist in the preparation of future teachers. It is during the student teaching experience that the teacher education faculty can get a holistic picture of the ability of their program to prepare the preservice teacher to enter the teaching profession. The teacher education faculty can assess if the correct procedures and experiences are being used to produce a quality teacher. Bernstein and Bass (2005) believe that one means of assessing the effectiveness of the teacher preparatory program may be assessed by the manner in which the teacher education candidates apply the principles taught by the teacher education faculty. Kay perhaps articulated the premise most accurately when he

stated, “Ultimately the aim of the teacher is to foster independent intellectual activity by removing individuals’ dependence on the teacher and ensuring individuals have learned how to learn” (Kay, 2003, p. 82).

Dean, Lauer and Urquhart (2005) and Schempp (2003) cite quality teaching experiences as one hallmark of a quality Teacher Education program. Studies by McCullick (2002) and Schempp (1985), for example, attest to the value of the student teaching experience in the development of competent teachers. The question that the PETE programs must now focus upon is to how best assess the skills of the student teacher and how to best use that assessment data to enhance the PETE program.

No Child Left Behind has not only created high stakes testing for the K-12 sector, but also for the teacher preparatory institutions as well. The increased emphasis on the accountability of the teacher education programs to produce highly qualified teachers who can have an impact on student learning has required teacher education faculty to continually assess and reflect upon the vitality of their programs. As PETE programs evolve from a content completion requirement to a more student competency or performance assessment system, upper level field experiences, such as student teaching, will take on a much larger significance.

Since the fall semester 2000, the teacher preparatory program at the University of Northern Iowa has used a performance assessment in which the PETE student teaching candidates participate in the Teacher Work Sample (TWS) model as a means to demonstrate their ability to influence student learning. The Teacher Work Sample was first developed at Western Oregon University in the late 1980’s and served as the model for the Renaissance Teacher Work Sample methodology used at the University of Northern Iowa. The current Renaissance TWS methodology is the result of collaboration among eleven Teacher Preparation Universities within the United States, known as the Renaissance Group (Chart 1). The

TWS represents authentic, performance based work and measures the thinking skills necessary for a teacher to impact student learning. The PETE program at the University of Northern Iowa was among the first in the country to use the TWS as a tool to assess components of the PETE preparatory program.

Chart 1

Renaissance Partnership Project Sites

<p>California State University, Fresno</p> <p>Eastern Michigan University</p> <p>Emporia State University</p> <p>Idaho State University</p> <p>Kentucky State University</p> <p>Longwood College</p> <p>Middle Tennessee State University</p> <p>Millersville University</p> <p>Southwest Missouri State University</p> <p>University of Northern Iowa</p> <p>Western Kentucky University</p>

The TWS is based on seven basic teaching standards that are linked to both the National Council for the Accreditation of Teacher Education (NCATE) standards and Iowa's Department of Education Professional Development Model (Iowa DOE, 2003). A strength of this model is that it provides feedback to teacher education faculty on the performance of their students. The teacher education faculty can then make data driven decisions about the strengths and weaknesses within the teacher education program. The TWS has also been recognized by NCATE as an acceptable method of assessing teaching performance. Pankratz (2003) advocates utilizing the TWS to enhance

the following teacher capabilities deemed to be important for student learning:

1. The ability to align curriculum and assessment with learning standards.
2. The ability to design instruction for specific learning goals, student needs, student characteristics and learning contexts.
3. The ability to use multiple assessment tools and processes for defining learning goals, pre-assessment of students' level of learning, and ongoing assessment of student progress.
4. The ability to use technology and media in a variety of ways to enhance instruction and student learning.

5. The ability to describe, account for and analyze the learning process of individual students over time.
6. The ability to reflect on a unit of instruction with a focus on student learning and the factors that facilitate and/or impeded learning. (Pankratz, 2003, pp.2-3)

The Teacher Work Sample Process

The Teacher Education program at the University of Northern Iowa requires that the physical education teacher education candidates complete four levels of sequenced field experiences. The first three levels are connected directly to university content courses. The fourth level is the student teaching experience. Each level has specific guidelines and assessments (see chart 2). All teacher education majors are introduced to the Teacher Work sample (TWS) during their initial professional education field experience (Level I) and are required to complete a modified TWS project during their second required field experience (Level II). Teaching candidates are exposed to the TWS methodology again in methods courses (part of Level III) within their respective departments.

The TWS includes the task to be completed and a rubric that defines three levels of performance for that task. During their student teaching semester (Level IV), the teacher education majors are required to design and deliver a three to four week unit of instruction and prepare a written document to provide evidence of their ability to impact student learning. The mentors' manual for the TWS, edited by West, Behrend, Newsome, and Langer (2004), specifies that the student teachers are required to use descriptive, analytical, and reflective writing to focus on seven teaching processes and their corresponding standards (Chart 3).

A university faculty member serves as the student teacher coordinator in the student teaching center and conducts weekly seminars

that include the instructions pertaining to the TWS assignment and the specific rubrics that will be utilized for the final assessment of the assignment. Student teachers meet with their cooperating teachers to select the teaching unit to be utilized with the TWS and to devise the pre-assessment, formative assessment and summative assessment prior to beginning the teaching unit. Student teachers keep a clinical log to show examples of instructional decision making and modifications made in response to student learning. Post assessments are conducted and analyses performed. The last component in the TWS process requires the student teachers to reflect upon the impact of their teaching in relation to student learning. Student teachers are also asked to reflect upon implications the TWS process may have on their future professional development.

At the conclusion of the student teaching experience, university teacher education faculty and local P-12 teachers assess the TWS projects using a three level rubric with the expectation that students attain the highest level (level 3) within each rubric. Henning and Robinson (2004) found the inter-rater reliability coefficient for this process ranged from .91 to .83 and dependability coefficient for three raters was .71.

Methods

Participants

The comparison groups consisted of the following:

Group 1—Physical education majors (N=12) and all other teaching majors (N= 176) who had completed the Student Work Sample assignment during their student teaching experience in the Spring 2002 or fall 2002 semester;

Group 2—Physical education majors (N=21) and all other teaching majors (N=397) who had completed the Student Work Sample assignment during their student teaching experience in the fall 2004 or Spring 2005 semester.

Chart 2
Sequence of Field experiences in the PETE Program

Name	Description
Level 1	A general introduction to the teaching profession is the primary focus. This one credit hour, ungraded course is usually taken during the student's sophomore year. Experiences include 30 hours of on-site observations and completion of a clinical observation log based upon the observations. The purposes of these experiences are to expose the candidates to not only the physical education content but to provide the candidates with some insights as to the responsibilities of teachers, operational functions of schools and student behaviors. The supervising teacher is responsible for evaluating the candidates on such items as attendance, a checklist of involved activities and a narrative of the student's performance.
Level 2	Additional classroom experiences are provided to the candidates during Level 2. Typically sophomores and juniors enroll in this one credit hour, ungraded class that requires at least 25 contact hours in the university's laboratory school. During Level 2, the candidates are required to design and deliver at least one physical education lesson, assist the teacher in delivering other lessons and to develop a modified teacher work sample project. The physical education teachers at the laboratory school complete a rubric/narrative evaluation on the candidates.
Level 3	The opportunities contained in the "Senior Methods Block" make up the Level 3 field experiences. The senior methods course is usually taken the semester immediately prior to the student teaching experience and is a graded, 5 credit hour component within the physical education major. The candidates must obtain a minimum of 15 contact hours with a PK-12 school setting within the methods course. The field experiences are assigned within the methods course and involve both the university's laboratory school and schools within the local area. The main purpose of the level three experiences is to provide the candidates with realistic opportunities for planning and teaching in a variety of realistic physical education environments. The candidates are assessed on the content of their lessons, the delivery of the lessons' content and reflection papers of the teaching experience.
Level 4	The student teaching experience comprises level 4. Candidates must complete 16 weeks of student teaching and complete a teacher work sample. Student teaching emphasizes the analysis of teaching and learning, the organization of instructional content and the evaluation of the teaching process. A main purpose of the student teaching experience is to develop the ability of the candidates to become a reflective practitioner and prepared to assume the role of a beginning physical education teacher. The cooperating teacher and the university student teaching supervisor collaborate to evaluate the performance of the candidates based upon our state's requirements for the Original Teaching Subject Area Endorsement (Iowa DOE, 2003). The candidates must also submit an acceptable teacher work sample in order to receive a passing grade for student teaching.

Chart 3

Teacher Work Sample Processes and Related Standards*

Teaching Process	Standard
Contextual Factors	The teacher uses information about the learning-teaching context and student individual differences to set learning goals and plan instruction and assessment.
Learning Goals	The teacher sets significant, challenging, varied and appropriate learning goals.
Assessment Plan	The teacher uses multiple assessment modes and approaches aligned with learning goals to assess student learning before, during and after instruction.
Design for Instruction	The teacher designs instruction for specific learning goals, student characteristics and needs, and learning contexts.
Instructional Decision Making	The teacher uses ongoing analysis of student learning to make instructional decisions.
Analysis of Student Learning	The teacher uses assessment data to profile student learning and communicate information about student progress and achievement.
Self-Evaluation and Reflection	The teacher reflects on his or her instruction and student learning in order to improve teaching practice.

*West, Behrend, Newsome, and Langer, 2004

Procedures

In the spring of 2003, Teacher Work Sample data from the Spring 2002 and Fall 2002 semesters were obtained from the office of the Director of Teacher Education to determine areas of concern and strengths within the PETE program. Teacher Work Sample reports had been previously evaluated by teacher education faculty and P-12 faculty using a three-point rubric for each of the seven TWS processes. The cadre of students, who completed the TWS during the

Spring or Fall, 2002, provided the baseline data for the PETE study. Data were collected on the seven processes and analyses made about the relative strengths and weaknesses within the PETE program in relation to the standards. Comparisons were also made to all student teachers for the same student teaching time period.

Based on the results of the 2002 data, the Physical Education Division’s pedagogical faculty designed a strategy to pin point and emphasize the

TWS concepts and principles within the Senior Methods Block course for the Fall 2003 and Spring 2004 semesters. The strategy employed included directing the students' attention to the TWS tasks and prompts for Learning Goals, Design of Instruction, Instructional Decision Making, and Self-Evaluation and Reflection. As these topics were covered in class, the instructors identified and further discussed the tasks and prompts for a unit of instruction which they delivered in a methods field experience. The instructors provided feedback to the students both upon completion of the assignment prior to the field experience teaching and following the actual delivery of the unit during the field experience. This means that students re-visited the tasks and prompts for the four identified areas, completed assignments on the four areas, and received feedback from the instructors on the completion of the TWS assignments prior to student teaching. The Contextual Factor component was emphasized in the same way in a project completed in an Administration and Curriculum class typically taken one semester prior to the Senior Methods course. The Assessment Plan component was discussed, but not in the same detail as the other elements of the TWS and was not evaluated.

Concurrently, the teacher education program initiated a requirement of a modified TWS during a 4-week, 25 hour field experience (Level II) for all teacher education candidates. Depending on a student's scheduling of classes, the Senior Methods course occurred either one or two semesters after the Level II field experience. PETE candidates typically take the methods course the semester immediately prior to their sixteen-week student teaching experience.

Data were collected from the TWS samples developed by the teacher education candidates who completed their student teaching either during the fall semester 2004 or the spring semester 2005. Teacher Work Samples were evaluated by teacher education faculty and P-12 faculty using a three-point rubric for each of the seven TWS processes. Data on the seven processes

were analyzed using t-tests to determine the relative impact of the PETE program modifications in preparing the teaching candidates to perform these processes in relation to the 2002 data. Comparisons were also made to all student teachers for the same student teaching time period.

Results

In Table 1 the data for all student teachers and physical education student teachers on each of the seven TWS processes for the 2002 sessions are displayed. Utilizing a three point rubric scale, with level three representing competency, the physical education student teachers scored at least a two on five of the seven teaching processes. Results of the data analysis show that student teachers from the PETE program were strongest in the areas of *Learning Goals* (2.43), *Instructional Decision Making* (2.39) and *Analysis of Student Learning* (2.38). Mean scores for *Contextual Factors* and *Assessment Plans* were found to be the weakest components for the physical education candidates, scoring 1.96 and 2.05 respectively. The comparison of physical education students with other education students indicated that physical education students scored lower on all of the seven processes, with the exception of *Analysis of Student Learning*. No statistical analyses were conducted due to the disparity of sample sizes between the two groups.

Physical Education Comparison Group data

The t-tests results reported in Table 2 indicate that there were significant gains made in the TWS elements of *Learning Goals*, *Design for Instruction*, *Instructional Decision Making* and *Reflection & Self Evaluation* from the 2002 data compared to the 2004-2005 data. Statistically significant t-test scores were recorded for the TWS elements of *Learning Goals* (-2.88), *Design for Instruction* (-2.44), *Instructional Decision Making* (-2.05) and *Reflection and Self-Evaluation* (2.04). No statistically significant gains were recorded for the TWS elements of *Contextual Factors*, *Assessment Plan* or *Analysis of Student Learning*.

Table 1

Summary of Work Samples Scores for Student Teachers Spring and Fall 2002

TWS Element	PE Majors 2002	All Majors 2002
Contextual Factors	1.96*	2.14
Learning Goals	2.43	2.52
Assessment Plan	2.05	2.32
Design for Instruction	2.14	2.36
Instructional Decision Making	2.39	2.36
Analysis of Student Learning	2.38	2.25
Reflection & Self Evaluation	2.06	2.16
Overall Average	2.20	2.30
N	12	176

* Mean score on a three point scale

Table 2

Comparison of Mean Scores of PE Majors for the 2002 and 2004-05 Testing Period

TWS Element	PE Majors 2002	Std Deviation 2002	PE Majors 2004-05	Std Deviation 2004-05	t-test Score
Contextual Factors	1.96#	.583	2.29	.463	-1.83
Learning Goals	2.43	.595	2.86	.359	-2.88*
Assessment Plan	2.05	.676	2.52	.750	-1.81
Design for Instruction	2.14	.474	2.57	.507	-2.44*
Instructional Decision Making	2.39	.803	2.81	.402	-2.05*
Analysis of Student Learning	2.38	.710	2.62	.669	0.96
Reflection & Self Evaluation	2.06	.664	2.52	.602	2.04*
Overall Average	2.20		2.60		
N	12		21		

Mean score on a three point scale * Significant at 95% level
Two Tail t-test Critical Score = ± 2.04

Comparison Between Groups

As shown in Table 3, mean scores for both the PE Majors and the All Majors group increased for all seven TWS elements. The largest per cent increases for the Physical Education Majors group were reported for *Assessment Plan* (22.93) and *Reflection & Self Evaluation* (22.33). The largest percent increases for the All Major group were reported for the *Reflection & Self Evaluation* (19.44) and *Analysis of Student Learning* (16.00) elements. The strongest TWS elements for the Physical Education majors were *Learning Goals* (2.86) and *Instructional Decision Making* (2.81), while the All Major groups' strongest elements were *Learning Goals* (2.79) and *Design for Instruction* (2.73). When comparing the mean differences between the PE Major and the All Major groups in 2002 and in the 2004-2005 data collection periods, the data in Table 3 indicate that the PE Major group "gained ground" on the all Major group in all of the TWS elements except for the TWS element of *Analysis of Student Learning*. The PE Major group's largest gains were recorded in the *Assessment Plan* (+11.29) and *Learning Goals* (+6.99) elements. In addition to having a larger mean score again in *Instructional Decision Making* and *Analysis of Student Learning*, the PE Major group also reported a larger mean score in the TWS element of *Learning Goals* during the 2004-2005 testing period.

Discussion

An increasing number of states are passing legislation that require teacher education candidates to pass competency assessments such as Praxis II or the National Teacher Exam before being granted licensure. In turn, teacher education preparatory programs have come under increased scrutiny to ensure their graduates can be effective teachers. The data reported in this article suggests that students in the teacher education program at the University of Northern Iowa are demonstrating a greater competence in completing the Teacher Work Sample than they did during the

2002 testing period. This may be due to the inclusion of developing a modified TWS program during the Level II field experience. Another possible explanation could be that the cooperating teachers and university supervisors are more experienced with the Teacher Work Sample components and are able to provide more beneficial feedback to the student teachers.

Integrating additional information pertaining to the TWS into the physical education teaching methods class appears to have enhanced the performance of the PETE candidates on the TWS during their student teaching practicum as they out performed the All Majors group. The PETE program modifications of enhancing the selected TWS elements in the Senior Physical Education Methods Course seemed to have assisted the PETE majors in demonstrating a greater competence in those elements during their student teaching experience, with the exception of Contextual Factors. Designing strategies that focus the attention of the PETE students on the selected TWS elements helped with the application of those elements. A combination of these variables is likely responsible for the increased scores reported in this study. However, the larger increases in the physical education majors would suggest that the strategies incorporated into the Senior Methods Block have been successful in developing those knowledge, skills and dispositions associated with effective teaching as assessed on the TWS.

It should be noted that the basic principles and concepts comprising the TWS elements were already being covered in the methods class. Going through the process of reflecting upon the TWS data to guide the course content development was beneficial to the pedagogy faculty. This would seem to support Bernstein's and Bass's (2005) position that one of the most important aspect of pedagogical research is to help the teacher education faculty in determining which teaching strategies, assessments, and learning processes are most productive for professional practice. The next task for the PETE faculty is to focus on

Table 3

Percent of Mean Score Change for PE Majors and All Majors from the 2002 to the 2004-05 Testing Period

* Mean score on a three point scale

Twos element	PE majors 2002	PE Majors 2004-05	Per Cent Score Change PE Majors	All Majors 2002	All Majors 2004-05	Percent Score Change All Majors	Comparison of % PE score change to % All score change
Contextual Factors	1.96*	2.29	16.84	2.14	2.46	14.95	+1.89
Learning Goals	2.43	2.86	17.70	2.52	2.79	10.71	+6.99
Assessment Plan	2.05	2.52	22.93	2.32	2.59	11.64	+11.29
Design for Instruction	2.14	2.57	20.09	2.36	2.73	15.68	+4.41
Instructional Decision Making	2.39	2.81	17.57	2.36	2.69	13.98	+3.59
Analysis of Student Learning	2.38	2.62	10.08	2.25	2.61	16.00	-5.92
Reflection & Self-Evaluation	2.06	2.52	22.33	2.16	2.58	19.44	+2.89
Overall Average	2.20	2.60	17.97	2.30	2.64	14.63	+3.59
N	12	21		176	397		

developing and implementing strategies designed to assist the PETE candidates with the remaining three TWS elements while maintaining the competencies in the five elements already addressed. It is an ongoing process, but one worth doing.

REFERENCES

- Bernstein, D. & Bass, R. (2005). The scholarship of teaching and learning. *Academe*, 91, 37-43.
- Dean, C., Lauer, P. & Urquhart, V. (2005). Outstanding teacher education programs: What do they have that the others don't? *Phi Delta Kappan*, 87, 284-289.
- Henning, J. & Robinson, V. (2004). The Teacher Work Sample: Implementing standards-based performance assessment. *The Teacher Educator*, 39, 231-248.
- Iowa Department of Education. (March, 2003), *The Iowa Professional Development Model*. Retrieved October 12th, 2005, from <http://www.state.ia.us/educate/ecese/tqt/tc/documents.html>.
- Kay, W. (2003). Teaching and research: A framework for professional development. *Bulletin of Physical Education*, 39, 79-91.
- Lee, A. & Solmon, M. (2005). Pedagogy research through the years in RQES. *Research Quarterly for Exercise and Sport*. 76, S108-S121.
- McCullick, Bryan. (2002). PETE governance, curriculum, and evaluation: A view from the Field. *Journal of Sport Pedagogy*, 8, 38-73.
- McDermott, P., Gormley, K., Rothenberg, J., & Hammer, J. (1995). The influence of classroom practice experiences on student teachers' thoughts about teaching. *Journal of Teacher Education*, 46, 184-191.
- Pankratz, R. (2003, February 25). Why the renaissance teacher work sample strategy has a high potential to improve student learning opportunities. Retrieved November 28, 2005 from http://fp.uni.edu/itq/Paper_Publication/index.htm.
- Schempp, P.G. (2003). *Teaching Sport and Physical Activity: Insights on the Road to Excellence*. Champaign: Human Kinetics.
- Schempp, P.G. (1985). Becoming a better teacher: An analysis of the student teaching experience. *Journal of Teaching in Physical Education*, 4, 158-166.
- Wang, A., Coleman, A., Coley, R., & Phelps, R. (2003). *Preparing Teachers Around the World: Policy Information Report* (p.21) Princeton: Educational Testing Service.
- West, L., Behrend, J., Newsome, J., & Langer, G. (2004). *Teacher Work Sample, Manual for Mentors*, Renaissance Partnership for Improving Teacher Quality Project, Western Kentucky University. Retrieved December 19, 2005 from <http://fp.uni.edu/itq/TeamMentoring/index.htm>.

Drs. Carol Phillips and Rip Marston are faculty members at the University of Northern Iowa.