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# The Teacher Work Sample: Candidate and Mentor Perceptions

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# Abstract

Elementary education faculty at this university embedded a Teacher Work Sample (TWS) performancebased assessment into the student teaching experience to assess candidates' ability to impact student learning as required by recent accreditation reforms. The authors conducted an internal evaluation of the TWS for the purposes of strengthening not only the capstone experience, but also all of the courses and field experiences that precede student teaching. This study examines quantitative and qualitative data gathered via surveys and follow-up semi-structured interviews with candidates and mentors. The results of the study indicate that while both candidates and mentors perceive the TWS as a positive tool, mentors had a significantly more positive view than candidates in several crucial areas.

Prior to the mid 1990s, the emphasis in teacher preparation programs was on the process of becoming a teacher. Schools of education were concerned with how teachercandidates (called "candidates" throughout) learned to teach and how their beliefs and attitudes evolved throughout their educational coursework. Instructors were concerned with providing pedagogical knowledge in contexts that supported candidate learning. More recently, however, teacher preparation programs have entered into a new paradigm. Universities are now faced with critical examination from external auditors assessing the qualifications of faculty members, the alignment of courses and field work with national and state standards, and candidate impact on student learning.

Teacher preparation has moved from an input approach focused on preservice teaching credentials toward an outcomes approach measuring candidates' classroom performance; this reframing of accountability has placed teacher preparation programs in the position of demonstrating that their candidates can, indeed, make a positive impact on P-12 student learning (Rothman, 2008). Such demands have even appeared in federal legislation as a proposal that professional teacher preparation programs be evaluated, at least in part, on the academic achievement of the P-12 students of their graduates (Hamel & Merz, 2005). In response to this shift toward increased accountability, schools of education have begun to pilot ways to assess candidates' impact on P-12 student achievement (Rothman, 2008). The path from policy into practice now starts with schools of education: administrators redesign curricula and align courses with reform policies and standards; instructors strive to build the knowledge, skills, and dispositions of their candidates in the belief that those candidates will, in turn, impact student learning in the P-12 schools (Spelman, 2006).

# Theoretical Framework

# Educational Reform and Teacher Quality

Beginning with A Nation at Risk, educational reforms in America experienced a shift in focus that has resulted in two decades of national and state mandates aimed at improving teaching and learning in P-12 schools. This increased federal focus on teacher quality has occurred, at least in part, because more and more research indicates that teacher expertise and the quality of instruction are highly significant factors in determining student achievement (Darling-Hammond & Ball, 2002; Greenwald, Hedges, & Laine, 1996; Ingersoll, 1996; Zumwalt & Craig, 2005). In 1996, the National Commission on Teaching and America's Future (NCTAF) was given the charge to study changes needed to ensure that every child in the United States would have access to highly qualified teachers. NCTAF (1996) recommended that schools of education work with states to redesign teacher education programs so that all candidates have access to high-quality learning opportunities.

The updated NCTAF (2003) report recommended that individual states require all teacher preparation programs to meet rigorous accreditation standards, establish institutionwide and program-wide leadership responsibility for the quality of teacher preparation, and if necessary, close those programs that are unable to produce high-quality teachers. In a move designed to raise the quality of the next generation of teachers, the Commission challenged institutions of higher education to collect and use data on P-12 student achievement, teacher licensure, and teacher retention to improve teacher preparation programs. In essence, university teacher education programs are being asked to ensure that the new professional has the knowledge necessary for effective classroom practice, is prepared for stringent initial licensure tests, and can demonstrate learning gains for all P-12 students (Cochran-Smith, 2005; Wise & Leibbrand,1996). This increased attention to student learning as a measure of teacher effectiveness has moved the preparation of teaching professionals into the spotlight (Girod & Girod, 2006).

# Effective Teacher Preparation

To support the development of exemplary teacher preparation programs, NCTAF worked with its state partners to build upon the research and standards developed by the Interstate New Teacher Assessment and Support Consortium (INTASC) and the National Board for Professional Teaching Standards (NBPTS) to develop a consensus about what a highly qualified beginning teacher should know and be able to do to help students learn. In this consensual vision, teacher education programs would be redesigned to ensure that candidates acquire a thorough knowledge base in a balanced program that places equal emphasis on content knowledge, pedagogical knowledge, and pedagogical content knowledge (Shulman, 1987).

Effective teachers are frequently described as those who are willing to reflect on practice to improve teaching (Cuban, 1990). To develop these personally motivated teachers, teacher preparation programs need to provide multiple opportunities for teacher candidates to engage in performancebased formative assessments. The state of Connecticut has led the way toward performance assessments for those candidates seeking initial licensure. More recently, thirty-one teacher preparation programs in California have switched to a performance-based assessment, The Performance Assessment for California Teachers (PACT), as a means of measuring the classroom performance of candidates (Rothman, 2008). The Renaissance Partnership Teacher Work Sample (TWS) has also emerged as a performance-based assessment which synthesizes professional education coursework into a comprehensive unit that examines candidate impact on P-12 student learning (Delvin-Scherer, Daly, Burroughs, & McCartan, 2007).

# The Teacher Work Sample Methodology

Educators at Western Oregon University designed an approach in which candidates are explicitly taught a model for teaching and learning that involves a design for effective planning, instruction, assessment, and reflection with an emphasis on assembling and analyzing data on P-12 student learning. This model evolved into seven processes (i. e., contextual factors, learning goals, assessment plan, instructional design, instructional decision making, and reflection on teaching and learning) commonly known as the TWS Methodology (Girod, 2002; Denner, Norman, Salzman, & Pankratz, 2003). This performance-based assessment was adapted by the Renaissance Group, a consortium of eleven colleges and universities, in their joint initiative to improve teacher quality through connecting teacher performance to student learning (Pankratz, 1999).

The TWS is a vehicle that guides candidates' thinking about the processes of teaching in ways that are tightly linked to P-12 student learning. When implemented as a means of gaining teaching experience in this manner and demonstrating effectiveness in doing so, a performance-based TWS can be considered both a vehicle to guide instruction as well as an approach to measurement (Girod, 2002). In fact, when used as an instructional framework, TWS Methodology scaffolds candidates as they question and reflect upon their teaching decisions. As an approach to measurement and accountability, the TWS allows candidates to examine student learning on specific outcomes that have been the focus of the instruction. It can also allow candidates to place student progress in a contextually grounded portraval that supports analysis of student learning and candidate teaching in an authentic setting. This performance-based assessment examines a candidate's work and a work of P-12 students, thus providing a way of meaningfully connecting the two samples (Schalock & Myton, 2002).

# Context

Teacher preparation has become the joint responsibility of numerous stakeholders, and yet current research is dominated by the voices and perceptions of university faculty and administrators. There is a need to examine the voices, perceptions, and questions raised by candidates and their mentors in the field (Cochran-Smith & Zeichner, 2005). The researchers of this study designed such an investigation to examine the perceptions of candidates and mentors regarding the benefits and challenges of implementing the TWS during the capstone student teaching experience. This midwestern university is a private, faith-based, liberal arts institution located in a major metropolitan setting. Founded in the 1860s, the university serves approximately 5,700 students at the main campus and off-site locations. Initial teacher certification programs are offered at both the graduate and undergraduate levels.

Historically, this university's elementary education program required candidates to plan and implement a unit of study during their 16-week student teaching experience. Candidates were also responsible for conducting an actionresearch study in their clinical practice classroom. However, faced with the new conditions for program approval, the elementary education faculty began to search for a tool that would evaluate candidates by focusing on student learning as well as candidate performance. This search led a team of the researchers to a Renaissance Group workshop focused on the performance-based Renaissance TWS. An initial examination of the TWS Methodology revealed several common features already in place in the traditional capstone assignments at this university.

As a result of the experience at the workshop, the elementary education program faculty proceeded to adapt a TWS performance-based assessment to be used as a tool for professional preparation, performance accountability, and program improvement. This customized version of the TWS was piloted in the capstone student teaching experience during the fall 2005 academic term. The TWS became one of the core assessments used to demonstrate candidates' knowledge, skills, dispositions, and impact on student learning in the accreditation report to the Association for Childhood Education International (ACEI). Currently, the TWS serves as one piece of evidence of candidates' ability to impact their students' achievement prior to exiting the program. This study is part of a larger, ongoing internal evaluation of the TWS aimed at strengthening not only the capstone experience, but also all of the courses and field experiences that precede student teaching.

# Methodology

A review of the literature reveals that the voices and perceptions of university faculty and administrators have dominated TWS studies. Few studies have been conducted with a focus on the perceptions of the largest group of stakeholders: candidates and their mentors. This study has been designed to address that gap in the TWS literature. Participants in this study included candidates enrolled in an elementary graduate or undergraduate initial certification program during the fall or spring academic terms of 2006. Specifically, the study focused on candidates enrolled in the program's capstone course (i. e., student teaching). The student teaching course is the last in a series of professional education courses that must be completed prior to certification. Each candidate was assigned at least one site-based teacher in a K-8 classroom mentor who supported and facilitated the student teaching experience and worked daily with candidates on critical design components as well as the implementation of the TWS. Thus, as significant stakeholders, it was important to also gather data regarding mentors' perceptions on the impact of the TWS on raising candidates' performance.

A blend of quantitative and qualitative measures was used to triangulate the data and gain a better understanding of participants' perceptions of the TWS on raising the quality of candidate performance. Specifically, the researchers sought to answer the following questions: (a) what are the perceptions of candidates regarding the impact of the TWS on raising the quality of their instructional effectiveness? (b) what are the perceptions of mentors regarding the impact of the TWS on raising the quality of candidate performance? and (c) is there a significant difference between the perceptions of candidates and mentors regarding the impact of the TWS on raising the quality of candidate performance? To answer these questions the researchers collected data using a Likert scale survey instrument, open-ended questionnaires, and semi-structured interviews during the spring and fall 2006 academic terms.

#### Data Collection

During the spring and fall of 2006, a 5-point, 17-item Likert scale survey instrument was used to collect data regarding candidate and mentor perceptions of the TWS.

Participants responded by assigning an answer of 1 = stronglydisagree (SD), 2 = disagree (D), 3 = neutral (N), 4 = agree(A), or 5 = strongly agree (SA). Survey instruments were distributed to candidates at the final class session. Although the completion of the survey was voluntary, the response rate was 100% with a final sample size of 107. To solicit the perceptions of mentors, researchers mailed 112 survey instruments. The response rate was 36% with a final sample size of 40. To determine the internal consistency of the data received, a Chronbach reliability analysis was conducted on candidate and mentor survey responses resulting in an alpha level of .98 and .96, respectively, revealing a high rate of variability. Items on the survey instrument included questions related to the impact of the TWS assignment on candidates' ability to use the seven TWS processes, the development of professional competencies, and whether or not the TWS reflects mentors' current practice at the clinical supervision site.

The survey instrument also included open-ended response items that invited participants to share any concerns or recommendations regarding the TWS and offer additional feedback regarding their perceptions of the TWS. A total of 63 candidates and 16 mentors responded to open-ended items on the survey instrument. The final item on the survey instrument was a short paragraph inviting respondents to participate in a follow-up interview. Fifteen volunteers, 11 out of 107 candidates and 4 out of 40 mentors, were willing to share their perceptions in follow-up semi-structured interviews (Patton, 2002; Rossman & Rallis, 2003). The face to face or telephone interviews lasted approximately forty-five minutes and were guided by parallel protocols built upon questions regarding candidate effectiveness in implementing the seven TWS processes as well as a number of supporting probes designed to encourage participants to expand on their responses (Rossman & Rallis, 2003). Participants were also encouraged to share their perceptions regarding the overall strengths and challenges of implementing a TWS during the student teaching experience.

#### Data Analysis

A significant amount of both qualitative and quantitative data were gathered through survey instruments, openended questionnaires, and semi-structured interviews. The tasks of managing and analyzing that data required the use of multiple methods of data analysis. Initially, a frequency distribution was employed to examine perceptions of the survey participants regarding the impact of the TWS on raising candidate performance. Because the responses on the Likert scale survey were considered ordinal data and the independent variables (candidates and mentors) were considered categorical data, a nonparametric Mann-Whitney test was selected. A Mann-Whitney test was chosen over a chi-square as an appropriate statistical test for two reasons: (a) the sample size of mentors was small (n = 40), and (b) the researchers did not make any assumptions regarding the distribution of the population. The use of a Mann-Whitney test allowed researchers to evaluate whether the median on a test variable differed significantly between the two groups of participants.

To analyze the open-ended response items on the survey instrument and the semi-structured interviews, the researchers reviewed the responses of mentors using the same 5-point Likert scale rankings found in the survey. This allowed a comparison between the quantitative and qualitative data from the survey instrument. Candidates' open-ended response items and the semi-structured interviews, however, were analyzed using two discrete methods of analysis. Initially, candidate responses were scored using the same Likert scale rankings used to analyze the responses of mentors. To gather additional data regarding teacher candidates' progress towards reflective practice, a second analysis was completed. This second analysis involved the use of a rubric aligned with Carol Rodgers' (2002a) reflective cycle based on Dewey's criteria (1910/1933). In this second analysis the researchers reviewed the statements of candidates and evaluated those responses against a rubric designed to measure their growth toward the ultimate goal of reflective practice. The holistic rubric values and criteria for placement in the reflective cycle were as follows:

- Level 0. superficial, comments not related to the professional growth experience
- Level 1. presence in the experience, learning to see as a state of mindfulness, full awareness and concentration, learning centered
- Level 2. description of the experience, learning to describe and differentiate, slowing down to look and see the variety of nuances present
- Level 3. analysis of the experience, learning to think from multiple perspectives and form multiple explanations, reorganizing and reconstructing the experience
- Level 4. experimentation, learning to take intelligent action, testing ideas, taking risks

#### Results

#### Survey-Instrument Questions

Candidate and mentor responses on each item of the survey were averaged and compared to understand their overall perceptions of the impact of the TWS on raising candidates' performance. Statistics reveal that mentors perceive the impact more positively than candidates on every item on the survey. Specifically, mentors' mean scores ranged from 3.58 - 4.15 revealing an overall favorable perception of the TWS. Candidates' mean scores ranged from 2.63 (question 16) - 3.89 (question 5), revealing mixed perceptions on the impact of the TWS. Table 1 provides complete details of the descriptive statistics.

To understand the distribution of mentor and candidate responses to the survey items, a frequency table was used to summarize and organize data. Frequency distribution test results in Table 2 indicate that over 50% of mentors responded positively regarding the impact of the TWS on raising the quality of candidates' performance. With respect to candidate perceptions (when combining *strongly agree* and *agree*), Table 2 indicates over 50% of candidates responded positively (when combining *strongly agree* and *agree*) to 13 of the 17 items regarding the impact of the TWS on the quality of candidates' performance. Conversely, less than 50% of candidates indicated negative responses (when combining *agree* and strongly agree) to the remaining four items (questions 13, 15, 16, and 17) on the survey. Table 2 summarizes the responses to the survey.

Table 1

Descriptive Statistics of Candidate with Respect to Each Question on the Likert Scale Survey

| Question Focus                                    | IV  | М    | SD    |
|---|-----|------|-------|
| Understand information to                         |     |      |       |
| 1 plan instruction                                | С   | 3 25 | 1 21  |
| n plan mondolion                                  | M   | 3.87 | 1.04  |
| 2 guide accomment plan                            | C   | 2.00 | 1 1 2 |
| 2. guide assessment plan                          |     | 3.00 | 1.12  |
|   | IVI | 3.80 | 1.04  |
| Create challenging                                |     |      |       |
| 3 learning goals                                  | С   | 3 90 | 1 27  |
| o. learning goald                                 | M   | 4.10 | 1.13  |
| I lse learning objectives to develop              |     |      |       |
|   | 0   | 0.70 | 1 17  |
| 4. pre-assessment plan                            |     | 3.70 | 1.17  |
|   | IVI | 3.90 | 1.10  |
| 5. formative assessment                           | С   | 3.89 | 1.14  |
|   | M   | 3.97 | 1.05  |
| 6. post-assessment                                | С   | 3.75 | 1.16  |
|   | Μ   | 4.05 | 1.01  |
| Design instruction consistent with                |     |      |       |
| 7 student information                             | C   | 3 75 | 1 10  |
|   |     | 3.75 | 1.19  |
|   | IVI | 4.05 | 1.02  |
| 8. objectives                                     | С   | 3.51 | 1.15  |
|   | M   | 4.05 | 1.01  |
| 9. pre-assessment plan                            | С   | 3.68 | 1.22  |
|   | Μ   | 4.19 | 1.12  |
| Conduct formative accessment to                   |     |      |       |
| 10 modify instruction                             | 0   | 0.46 | 1 00  |
| TO. MOUNTY INSTRUCTION                            |     | 3.40 | 1.20  |
|   | IVI | 3.92 | 1.07  |
| Ability to reflect                                |     |      |       |
| 11 on student learning                            | С   | 3 70 | 1 26  |
| The off stadent learning                          | M   | 4.00 | 00    |
| 10 often instructional delivery                   |     | 4.00 | 1.04  |
| 12. after instructional delivery                  | 0   | 3.62 | 1.34  |
|   | IVI | 4.15 | .89   |
| Overall the TWS                                   |     |      |       |
| 13. demonstrates effective teaching               | С   | 3.09 | 1.34  |
| i el demenerate en contro todoring                | M   | 3.90 | 89    |
| 14 atrusture supports student learning            | Ċ   | 2 10 | 1 04  |
| 14. structure supports student learning           | M   | 2 00 | 1.04  |
| 15 supported my growth as a                       | IVI | 3.00 | 1.15  |
| 15. supported my growin as a                      | ~   | 0.07 | 4.0.4 |
| professional educator                             | C   | 3.07 | 1.24  |
|   | M   | 3.75 | 1.26  |
| <ol><li>raised the quality of candidate</li></ol> |     |      |       |
| performance                                       | С   | 2.63 | 1.27  |
|   | Μ   | 3.58 | 1.30  |
| 17. reflected current clinical                    |     |      |       |
| practice site                                     | С   | 3.03 | 1.37  |
|   | Μ   | 3.83 | 1.08  |

Note: IV = independent variable; C = candidate; M = mentor

Tables 3 displays the results of a Mann-Whitney test conducted to determine if there was a significant difference in the perceptions of candidates and mentors regarding the impact of the TWS on raising the quality of candidate performance. Table 3 reveals that mentors perceived the TWS as significantly more positive than candidates did in the areas of instructional planning (question 1), with a mean place of 89.54 and 68.19, respectively, and creating learning goals (question 2), with a mean place of 95.31 and 66.03, respectively. Table 3 provides detail of the data results. Mentors perceived the TWS as significantly more positive than candidates did in designing appropriate instruction consistent with learning objectives (question 8), with a mean place of 84.06 and 68.20, respectively. Furthermore, mentors perceived

the TWS as significantly more positive than candidates did in designing appropriate instruction consistent with a preassessment plan (question 9), with a mean place of 84.21 and 68.73, respectively.

Table 3 also reveals that mentors perceived the TWS as significantly more positive than candidates did in the ability to conduct formative assessments to modify instruction. Mentors perceived the TWS as significantly more positive than candidates did in the ability to reflect on instructional delivery (question 12), with a mean place of 84.85 and 69.94, respectively. Furthermore, mentors perceived the impact of the TWS as significantly more positive than candidates did in the areas of effective teaching (question 13), supporting

Table 2

Frequency Distribution of Candidate (C) and Mentor (M) Response to the Items on the Survey

| Question Focus                                     | IV  | п   | SD     | D       | N       | А       | SA      |
|--|-----|-----|--------|---------|---------|---------|---------|
| Use student information to                         |     |     |        |         |         |         |         |
| 1. plan instruction                                | С   | 107 | 10.0%  | 19.6%   | 16.8%   | 41.1%   | 12.1%   |
|  | М   | 40  | 0      | 15.0%   | 15.0%   | 35.5%   | 32.5%   |
| 2. guide assessment plan                           | С   | 105 | 6.5%   | 13.1%   | 5.6%    | 31.8%   | 41.1%   |
| <b>č</b>   | М   | 40  | 2.5%   | 12.5%   | 12.5%   | 47.5%   | 25.0%   |
| Create challenging                                 |     |     |        |         |         |         |         |
| 3. learning goals                                  | С   | 105 | 6.7%   | 13.3%   | 5.7%    | 32.4%   | 41.9%   |
|  | М   | 40  | 5.0%   | 5.0%    | 12.5%   | 30.0%   | 47.5%   |
| Use learning objectives to develop                 |     |     |        |         |         |         |         |
| 4. pre-assessment plan                             | С   | 105 | 3.8%   | 15.2%   | 19.0%   | 31.4%   | 30.5%   |
| ·· •· • ••••••                                     | M   | 40  | 5.0%   | 7.5%    | 12.5%   | 42.5%   | 32.5%   |
| 5. formative assessment                            | C   | 63  | 3.2%   | 11.1%   | 14.3%   | 36.5%   | 34.9%   |
|  | M   | 40  | 5.0%   | 5.0%    | 10.0%   | 47.5%   | 32.5%   |
| 6. post-assessment                                 | C   | 103 | 6.8%   | 7.8%    | 16.5%   | 38.8%   | 30.1%   |
|  | M   | 41  | 5.0%   | 2.5%    | 12.5%   | 47.5%   | 32.5%   |
| Design instruction consistent with                 |     |     |        |         |         |         |         |
| 7 student information                              | С   | 100 | 7.0%   | 10.0%   | 14.0%   | 39.0%   | 30.0%   |
|  | M   | 39  | 2.6%   | 7.7%    | 10.3%   | 41.0%   | 38.5%   |
| 8 objectives                                       | C   | 105 | 8.6%   | 11.4%   | 9.5%    | 44.8%   | 25.7%   |
| 0.0000000  | M   | 39  | 5.1%   | 5.1%    | 10.3%   | 33.3%   | 46.2%   |
| 9 pre-assessment plan                              | C   | 105 | 8.6%   | 19.0%   | 8.6%    | 45.7%   | 18.1%   |
|  | M   | 40  | 2.5%   | 10.0%   | 15.0%   | 37.5%   | 35.0%   |
| Conduct formative assessment to                    |     |     |        |         |         |         |         |
| 10 modify instruction                              | C   | 105 | 6.7%   | 16.2%   | 13.3%   | 46 7%   | 17 1%   |
|  | M   | 40  | 2.5%   | 7.5%    | 7.5%    | 42.5%   | 40.0%   |
| Ability to reflect                                 |     |     |        |         |         |         |         |
| 11 on student learning                             | C   | 104 | 10.6%  | 9.6%    | 5.8%    | 47 1%   | 26.9%   |
| The on statent learning                            | M   | 40  | 0%     | 10.0%   | 17.5%   | 35.0%   | 37.5%   |
| 12 after instructional delivery                    | C   | 107 | 12.1%  | 11.2%   | 8.4%    | 39.3%   | 29.0%   |
|  | M   | 40  | 0%     | 7.5%    | 10.0%   | 42.5%   | 40.0%   |
| Overall the TWS                                    |     |     |        |         |         |         |         |
| 13 demonstrates effective teaching                 | C   | 107 | 15.0%  | 23.4%   | 15.0%   | 30.8%   | 15 9%   |
| 10. demonstrates encetive teaching                 | M   | 40  | 2.5%   | 12 5%   | 17.5%   | 27.5%   | 10.0%   |
| 14 structure supports student learning             | C   | 107 | 11.2%  | 22.4%   | 15.0%   | 30.3%   | 12.1%   |
| 14. Structure Supports structure rearring          | M   | 40  | 5.0%   | 15.0%   | 15.0%   | 25.0%   | 12.1%   |
| 15 supported my growth as a professional educator  | C   | 107 | 16.8%  | 14.0%   | 26.2%   | 30.8%   | 12 1%   |
| 10. Supported my growin as a professional educator | M   | 40  | 7.5%   | 15.0%   | 7 5%    | 35.0%   | 35.0%   |
| 16 raised the quality of candidate performance     | C   | 107 | 19.6%  | 28.0%   | 28.0%   | 18.7%   | 5.6%    |
| is raised the quality of candidate performance     | M   | 40  | 7.5%   | 15.0%   | 22.5%   | 22.5%   | 32.5%   |
| 17 reflected current clinical practice site        | C   | 101 | 17.8%  | 20.6%   | 20.6%   | 23.4%   | 17.8%   |
| Tr. Tenedica current cillical practice site        | M   | 40  | 2.5%   | 10.0%   | 15.0%   | 20.470  | 30.0%   |
|  | IVI | 40  | 2.0 /0 | 12.0 /0 | 10.0 /0 | 40.0 /0 | 30.0 /0 |

*Note*: n = sample:

SD = strongly disagree; D = disagree; N = neutral; A = agree; SA = strongly agree

student learning (question 14), becoming a professional (question 15), and developing candidate teaching performance (question 16). Finally, mentors perceived the TWS as significantly more representative of the clinical practice site than did candidates, with a mean place of 91.74 and 67.37, respectively.

#### **Open-Ended Response Items**

Sixteen mentors responded to the open-ended survey items. Eleven of the 16 mentor responses to the first openended item asking for concerns and recommendations fell into the negative range. Mentors generally focused on the problems and barriers encountered by the candidates as they designed and implemented the TWS: "Even though the TWS was helpful it took a lot of time and effort. (Perhaps) it should be the only (student teaching) requirement."

However, 12 of the 16 mentor responses to the second open-ended item asking for specific feedback on the seven TWS processes fell largely in the positive range. Mentors shifted their focus here to the importance and benefits of the TWS: "TWS helps student teachers understand more about their workplace." Finally, the third opportunity for additional feedback resulted in only positive statements related to candidate performance and the overall mentoring experience.

#### Table 3

Statistical test to determine the between-group difference

| Question Focus  | IV  | Mean Rank       | Sum of Ranks |  |
|---|-----|-----------------|--------------|--|
| lise student information to                               |     |                 |              |  |
| 1 plan instruction  | C   | 68 19           | 7296 50      |  |
| 1. plan instruction                                       | M   | *89 54          | 3581 50      |  |
| 2 guide assessment plan                                   | C   | 66.03           | 7065 50      |  |
| 2. guide assessment plan                                  | M   | *05.21          | 2812.50      |  |
|   | IVI | 95.51           | 3612.30      |  |
| Create challenging  |     |                 |              |  |
| 3 learning goals  | С   | 71 48           | 7505.00      |  |
|   | M   | 78.19           | 3080.00      |  |
|   |     |                 |              |  |
| Use learning objectives to develop                        |     |                 |              |  |
| 4. pre-assessment plan                                    | С   | 71.02           | 7457.50      |  |
|   | Μ   | 78.19           | 3127.50      |  |
| 5. formative assessment                                   |     |                 |              |  |
|   | С   | 51.31           | 3232.50      |  |
|   | Μ   | 53.09           | 2123.50      |  |
| 6. post-assessment  | С   | 70.05           | 7215.00      |  |
|   | М   | 77.03           | 3081.00      |  |
|   |     |                 |              |  |
| Design instruction consistent with                        |     |                 |              |  |
| 7. student information                                    | С   | 67.32           | 6731.50      |  |
|   | Μ   | 76.88           | 2998.50      |  |
| 8. learning objectives                                    | С   | 68.20           | 7161.50      |  |
|   | М   | *84.06          | 3278.50      |  |
| 9. pre-assessment plan                                    | С   | 68.73           | 7216.50      |  |
|   | М   | *84.21          | 3368.50      |  |
|   |     |                 |              |  |
| Conduct formative assessment to                           |     |                 |              |  |
| 10. modify instruction                                    | С   | 66.89           | 7023.50      |  |
|   | M   | *89.04          | 3561.50      |  |
| A bill be the second second                               |     |                 |              |  |
| Ability to reflect  | 0   | 70.00           | 7047.00      |  |
| 11. on student learning                                   | C   | 70.36           | 7317.00      |  |
|   | M   | 78.08           | 3123.00      |  |
| 12. after instructional delivery                          | C   | 69.94           | 7484.00      |  |
|   | M   | *84.85          | 3394.00      |  |
| Overall the TIMS  |     |                 |              |  |
| 12 demonstration officiative teaching                     | C   | 67 10           | 7190.00      |  |
| rs. demonstrates enective teaching                        | C M | 87.10<br>*00.45 | 7180.00      |  |
| A A set of the set of the set of the set of the           | IVI | 92.45           | 3698.00      |  |
| 14. structure supports student learning                   | C   | 68.22           | 7300.00      |  |
|   | M   | 89.45           | 3578.00      |  |
| 15. supported candidate growth as a professional educator | С   | 67.71           | 7245.00      |  |
|   | M   | ^90.83          | 3633.00      |  |
| 16. raised the quality of candidate performance           | C   | 65.85           | 7045.50      |  |
|   | M   | *95.81          | 3832.50      |  |
| 17. reflected mentor's current practice at clinical site  | С   | 67.37           | 7208.50      |  |
|   | M   | *91.74          | 3669.50      |  |
|   |     |                 |              |  |

Note: IV = independent variable; C = candidate; M = mentor

Mentors frequently commented that the TWS was helpful but indicated a need for further clarity regarding the assignment requirements and their particular supporting roles. "I would have liked a letter of introduction (explaining) my role." and "It was important to provide clarity with regard to the TWS . . . should it be cross curricular, problem-based, etc.?" A number of mentors suggested that TWS components might be better placed prior to the student teaching capstone experience, while others felt it was beneficial during student teaching. "(The TWS might be) more effective if designed outside the student teaching experience . . .very time consuming." and "While the completed project was excellent, the amount of time and energy that was spent putting it together could have been better spent."

Twenty-nine of the 63 candidate responses to the first open-ended response item were also negative. Comments made by candidates tended to focus on the amount of energy and time invested in preparing the TWS. "(The TWS) took away time and energy from other responsibilities. It seems like busy work".... "The idea is great, but creating graphs can be time consuming." Forty-three of the 63 candidate responses to the second open-ended item asking for specific feedback on the seven TWS processes fell in the positive range. Candidates shifted their focus in this item to the benefits of the various TWS phases, but the underlying tone of time invested continued to surface. "Pieces were helpful (learning goals, assessment plan, analysis of student learning and reflection)". . . . "The phases were okay but (I) needed more time to implement (the TWS) in the classroom." The third opportunity for additional feedback demonstrated that candidates were clearly split in their overall perceptions of the TWS; 36 of the candidate comments fell into the positive range while 27 were scored as negative.

A second review of candidate comments on the openended items revealed that 12 of the respondents scored at the lowest or superficial level of Rodgers' reflective cycle. These candidates shared a negative view of this particular performance-based assessment. Eleven candidate respondents scored at the first level; these candidates primarily described their presence in the experiences. The second level, differentiating and looking at nuances, was reached by 22 of the respondents. Their comments touched on the benefits of the TWS assessment and on those pieces they felt were personally beneficial.

Fifteen of the participating candidates scored at the third level of the reflective cycle; their comments exemplified the ability to analyze the experience from multiple perspectives. Only three candidates responding to the open-ended items reached the highest level of Rodgers' reflective cycle. These candidates were able to share examples of learning to take intelligent action, testing ideas, and suggesting alternative ideas for future teaching and learning experiences.

#### Semi-Structured Interviews

This study was undertaken as a blended research design allowing the researchers to use both numbers and words to

understand the perceptions of candidates and their mentors. This linking of quantitative and qualitative data facilitated a richness that expanded both the scope and breadth of the study. Semi-structured interviews were conducted with volunteers during a 30-90 day period after the end of the student teaching experience. Individual interviews were conducted either at the student teaching site, at the university, or by telephone in accordance with the preference of each participant. An analysis of the semi-structured interview transcripts revealed that the qualitative data supported the quantitative findings. In this limited sample, both candidates and their mentors expressed positive perceptions regarding the overall impact of the TWS on candidate performance. The few negative comments that were offered centered on work load issues and time constraints.

The semi-structured interview questions probed participants' perceptions regarding each of the seven TWS processes; in each case the responses were overwhelmingly positive and candidates scored consistently at level 2 or higher on the reflective cycle rubric. Mrs. A<sup>1</sup>, a mentor, clearly expressed her positive perception of the contextual factors process. "She was so aware of their needs . . . and looked at them from a multicultural perspective . . . she did understand where people (parents) were coming from . . . adjusted expectations." Data from candidate interviews emphasized the benefits of using the contextual study to guide the development of learning goals. Mary Ellen, a candidate, commented, "It (the learning goals process) forced me to be organized and on task . . . and to really articulate the goals I wanted my students to do . . . (it) helped me to do a better job with the kids."

The comments of one candidate, Suzanne, exemplified the positive perceptions expressed by all of the interviewed candidates regarding the assessment planning process. "I would like to say, keep this part (assessment planning)... to me this was the most important part." and "Not only could I measure what my students were learning and how far they had come, but I could find out how far I had come!" In addition, the comments of candidate Katherine were representative of the overall positive view candidates expressed about the benefits of the instructional planning component of the Teacher Work Sample. "This design for instruction piece forces you to sit down and think about planning in a different way ... as opposed to planning what kids might enjoy." and "This piece forces you to think about every single angle."

Mrs. A, a mentor, pointed out the benefits of asking candidates to reflect upon instructional decisions made in-action, "She (Mrs. A's candidate) reflected a lot, we would have big discussions and she would say . . . 'I know I should not have done that' and she would reflect with me frequently about her lessons." The researchers found that the impact of the analysis of the student learning process surfaced in the majority of semi-structured interview conversations. Jill, another candidate, explained her thoughts, "(Analysis is) probably

<sup>1</sup> Pseudonyms have been assigned to all participants to guarantee privacy and confidentiality. Identifying characteristics have also been changed or omitted.

the most important part . . . because I had to know, did my students learn anything? . . . did I learn anything?"

Both candidates and mentors spoke about the reciprocal benefits of reflecting on teaching as well as reflecting on student learning. Carrie, a candidate, offered comments that summarize the overall perceptions expressed by participants, "Becoming a reflective practitioner... this piece truly helped me to do that. Now I am going to be able to go into this classroom in August and reflect on what I am doing every day!" All participants were in agreement that the TWS was helpful in developing the skills of a reflective practitioner. As Amy explained, "I think it (TWS)... made you sit down and actually think about what you do and need to do to be an effective teacher."

# Discussion and Conclusions

Faculty members at Western Oregon University have been studying the perceptions of teacher candidates and inservice teachers regarding the effectiveness of the TWS for several decades (Girod & Shalock, 2002). The two most common views expressed by Western Oregon candidates were that the TWS was a key factor in helping them to become very focused as teachers and that the process of developing a TWS deepened their understanding of complex instructional units (Girod & Shalock, 2002). California teacher educators involved with the PACT performance-based assessment have experienced similar findings. While their candidates agree that the process is time consuming, many state that they have learned a great deal from the experience (Rothman, 2008). Data gathered from candidate participants of this study seem to concur with the findings at Western Oregon and the California consortium of universities. It appears that the concepts and skills nurtured by the TWS performance-based assessment are not all that different from the concepts and skills traditionally taught in teacher preparation programs. The benefit appears to be that the design and implementation of a comprehensive TWS unit allows candidates to take the theory emphasized in university classrooms and effectively apply it in the authentic classroom setting. Another significant feature of the TWS is that the processes facilitate candidate analysis and reflection regarding group and individual student progress (Delvin-Scherer, Daly, Burroughs, & McCartan, 2007).

Mentors' perceptions regarding the impact of the TWS on raising the quality of candidates' instructional effectiveness were generally more positive than those of candidates. Furthermore, mentor responses to the open-ended items and semi-structured interview probes supported the positive responses gathered via the survey instruments. Subsequent data analyses revealed patterns consistent with candidate concerns regarding time and workload issues caused by the TWS during the student teaching experience. Many expressed the difficulty of supporting candidates as they juggled this added task to an already burdensome workload. In this study, elementary education candidates often struggled to make developmentally appropriate decisions about teaching and learning during the student teaching experience; at the same time candidates were trying to complete the numerous TWS requirements.

Although both candidates and mentors demonstrated positive perceptions regarding the impact of the TWS on raising the quality of candidates' instructional effectiveness, there were significant differences in their responses to 11 out of 17 items on the survey instrument. For these 11 items, mentors perceived the impact of the TWS more positively than did candidates. This difference may be attributed to the fact that mentors were allowed the luxury of observing candidates' as they grew in competence; candidates themselves may have developed more positive perceptions given time and distance from the experience for thought and reflection.

A second theme emerged from the mentor responses in both open-ended items and semi-structured interviews: mentors expressed a need for clarity regarding their own roles as mentors for candidates throughout this performancebased assessment. Similar findings were reported by TWS researchers at Seton Hall University. Mentors participating in that study also requested clear guidelines and suggestions for better support of their candidates in the design and implementation of a TWS (Devlin-Scherer, Daly, Burroughs, & McCartan, 2007).

In terms of candidate qualitative responses, the majority of these were at the lower levels (i. e., Level 0 & Level 1) on the reflective cycle rubric. A potential contributing factor to candidate responses here may have been one of timing. The survey instruments were administered during the final class meeting of the student teaching semester. Typically, any candidate at this point in the academic term would be struggling to balance numerous academic and personal responsibilities. Candidates at this university may have responded differently if more time between the experience and the administration of the survey instrument had allowed for depth in reflection.

The majority of semi-structured interview participants met with the researcher approximately 30 days after the completion of a 16-week student teaching experience. Interestingly, semi-structured interviews with candidates revealed overwhelmingly positive perceptions regarding the TWS. Candidate responses in these dialogues consistently fell into the upper levels (i. e., levels 2 - 4) of the reflective cycle rubric. Time and distance from the experience may have been a contributing factor in the positive responses offered during semi-structured interviews. In fact, candidates who were interviewed 30-90 days after the completion of the student teaching experience expressed more positive overall views and reached the highest levels on the reflective cycle rubric.

The face-to-face conversations may have been another factor that encouraged candidates to move further into the reflective cycle. During the semi-structured interviews, the researcher had the opportunity to observe the level of reflective thinking change as candidates made connections, reorganized, and reconstructed their experiences in community (Rodgers, 2002b). As the interview conversations progressed the candidates described and differentiated the experiences of designing and implementing a TWS. These reflective conversations allowed the candidates to slow down and examine the various nuances of their own experiences (Spelman & Allman, 2007).

Interestingly, similar findings were discovered by a team of researchers piloting the TWS as part of the student teaching experience at the University of Northern Iowa. Mentors in this pilot program agreed that the TWS was effective and served to better structure the student teaching experience. However, they agreed with the mentors participating in this study as they cautioned that careful management of the overall workload was critical to the success of the TWS experience (Henning, DeBruin-Parecki, Hawbecker, Nielsen, Joram, & Gabriele, 2005).

Researchers at Western Oregon University found that implementing TWS Methodology is very contextual and that each program faces unique challenges as they implement TWS assessments (Wright, 2002). Several other studies echo the findings of this study leading to the conclusion that reflective practice is an important outcome for those programs hoping to prepare highly-qualified teachers. Researchers at Seton Hall University agreed that the TWS experience resulted in far more compelling reflection pieces than previous practices (Devlin-Scherer, Daly, Burroughs, & McCartan, 2007). Similar reports were cited in the Northern Iowa University pilot program. Researchers there noted that the TWS proved to be a beneficial tool for promoting reflection on student learning (Henning, DeBruin-Parecki, Hawbaker, Nielsen, Joram, & Gabriele, 2005). The Interstate New Teacher Assessment and Support Consortium's (INTASC, 1991) ninth core standard for teachers states: "The teacher is a reflective practitioner who continually evaluates the effect of his/her choices and actions on others (students, parents, and other professionals in the learning community) and who actively seeks out opportunities to grow professionally." Effective teachers, then, engage in reflective practice.

# Lessons Learned

Mewborn (1999) argued that pre-service teachers need time to learn and practice reflective skills in a non-evaluative environment. It is essential then that teacher educators support the growth of reflective skills throughout the pre-service and in-service development of professional educators. Thus, it will be important that the elementary education faculty at this university find ways to scaffold candidates' reflective habits. Ensuring time and distance from the experiences as well as providing opportunities for reflection in community will need to be added to early professional education coursework as well as to the student teaching experience. In fact, Bullough & Baughman (1997) asserted that the first five to seven years of teaching careers constitute the novice period; these years should be marked by ongoing reflection. These arguments provide food for thought as the researchers in this study review, reflect, and revise TWS performancebased assessment for future elementary education program candidates.

The TWS at this university should be further contextualized to provide a means of addressing not only the need for measurement and accountability, but to serve as an opportunity to strengthen the reflective skills of candidates. Candidates, mentors, and all program faculty should be introduced to a common set of reflective stages and embed one vehicle for assessing candidate reflective growth throughout professional education coursework.

Overall the TWS has been a positive addition to this particular elementary education teacher preparation program. However, based on the pilot study, the researchers learned a few lessons that may inform other institutions. First, embedding the seven processes of the TWS backwards into professional coursework may increase the comfort level of candidates implementing a TWS in the final student teaching experience. Early survey courses may include contextual studies of field experience sites; learning theory courses could require candidates to develop learning goals and align those goals with state standards. Various methods courses can introduce candidates to the assessment planning and instructional design processes. Later coursework may require candidates to analyze assessment data and plan a mini-TWS. The TWS would then become the common thread that weaves teacher preparation coursework into a comprehensive tapestry of preparation. In addition, these steps may help to raise candidates' perceptions regarding the impact of the TWS on their own teaching effectiveness.

Next, a TWS handbook to guide and inform candidates could be developed. Such a handbook could provide timelines, worksheets, graphic organizers, and scoring rubrics for each of the seven distinct processes. Candidates could use a contextualized handbook to guide the development and implementation of the TWS during the student teaching experience. In addition, breaking the assignment into seven separate pieces would allow for formative feedback, collegial conversations, peer evaluations, and opportunities for revision and resubmission. Another support for future candidates might be the sharing of exemplars and non-exemplars to strengthen their vision of effective TWS design.

Last, orientation and support for mentors should be a major part of TWS implementation. Orientation sessions and workshops for mentors could help to build a common understanding and language that can be useful in supporting candidates in the TWS design and implementation. Such meetings might also open the lines of communication between universities and P-12 field experience schools. A guidebook for mentors should also be developed. A streamlined guidebook for mentors might address common issues, define terms, offer examples, and even provide answers for frequently asked questions.

# Implications for Future Research

Subsequent studies should investigate opportunities for purposeful pairings of candidates and mentors to facilitate successful student teaching experiences (Spelman & Allman, 2007). In addition, it is important to explore the advantages and disadvantages of placing candidates with program alumni or current graduate students more familiar with the TWS Methodology.

Finally, the nature of reflective growth in both pre-service and in-service teachers demonstrates the need for ongoing research regarding the effectiveness of the TWS Methodologies as they relate to reflective practitioners. There is a need for longitudinal studies that follow teacher candidates' progress as they move into the role of professional educators. In addition, the researchers see a need for continued gathering of stakeholder perceptions as well as ongoing program evaluation designed to inform future program improvement and related modifications of the TWS.

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