

**RUNNING HEAD: ASSESSING DISPOSITIONS**

**ASSESSING TEACHER CANDIDATE DISPOSITIONS**

### **Abstract**

Previous research has demonstrated that dispositions of teachers affect how teachers teach (Knowles, 1992; 1994; Knowles & Holt- Reynolds, 1994). Therefore, whether preparation programs are seeking accreditation or not it is necessary to know how well candidates are developing professional dispositions to teach. The purpose of this study was to design a valid and reliable inventory to examine the development of candidate dispositions as they progress through the preparation program. The study was conducted with candidates taking beginning courses and candidates ending their student teaching experience (N=240). Data analyses demonstrated that ending candidates scored significantly better ( $p < .01$ ) than beginning candidates. Item analysis of the inventory questions showed an internal consistency of .90. The data provided strong evidence that the inventory is reliable and valid, and that the faculty are preparing candidates consistent with values and beliefs expected of the teaching profession.

## ASSESSING TEACHER CANDIDATE DISPOSITIONS

### THE DISPOSITION OF DISPOSITIONS

*“Not by years but by disposition is wisdom acquired”* (Plautus. c. 254–184 B.C.).

After the reframed National Council for Accreditation of Teacher Education (NCATE) standards appeared in 2001, few educators understood or believed dispositions could be or should be evaluated. Despite the fact that research on teaching began examining teacher thought rather than teacher behavior as early as the mid 1980’s, and the Council of Chief State School Officers using the Interstate New Teacher Assessment and Support Consortium (INTASC) standards embedded dispositions into state licensing standards in the early 1990’s (Wenzlaff, 1998) many faculty across the nation remained confused by the intent of the new NCATE disposition standard and some programs failed to meet the standard in meaningful ways. Moreover, during 2005 the popular academic press published criticisms of NCATE for requiring institutions to examine attitudes and beliefs of teacher candidates. While there have been many criticisms on the assessment of candidate dispositions, it does not appear that the dispositional standards were developed devoid of research support. Knowles (1992; 1994), Knowles and Holt-Reynolds (1994), and Clark (1992) reported that dispositions of teachers were important reflections of how teachers teach. In addition, the professional community wrote several articles in the 1990s encouraging the promotion of professional dispositions.

*“Although teaching teacher candidates the skills associated with effective instruction is a focus of teacher education programs, cultivating and developing teacher candidates’ beliefs and attitudes that will serve to inform professional practice and decision-making throughout their*

*careers are also priority outcomes” (Renzaglia, Hutchins, & Lee, 1997, p. 361).*

Consequently, for the past ten years the educational literature has supported the need for faculty in colleges of education to focus not only on teaching knowledge and skills, but also to examine the belief systems or dispositions of teacher education candidates (McNeight, 2004; Richardson, 2003; Wenzlaff, 1998). Because past experiences and cultural background (Clark, 1992) are inextricably linked to dispositions and known to affect how teachers teach, it is important to examine dispositions systematically as candidates move through teacher preparation programs. The intent of the NCATE standard in support of this research was to provide teacher candidates with a mechanism “to recognize when their own dispositions need to be adjusted” (NCATE, 2002, p.16). The explanation of dispositions in the 2002 Professional Standards states,

*Candidates for all professional education roles develop and model dispositions that are expected of educators. The unit articulates candidate dispositions as part of its conceptual framework(s). The unit systematically assesses the development of appropriate professional dispositions by candidates. Dispositions are not usually assessed directly; instead they are assessed along with other performances in candidates’ work with students, families, and communities” (p.19).*

The terms dispositions, attitudes, and beliefs are often used synonymously. Richardson (2003) defines dispositions as, "psychologically held underpinnings, premises, or propositions about the world that are felt to be true" (p. 2). NCATE defines dispositions as:

*The values, commitments, and professional ethics that influence behaviors toward students, families, colleagues, and communities and affect student*

*learning, motivation, and development as well as the educator's own professional growth. Dispositions are guided by beliefs and attitudes related to values such as caring, fairness, honesty, responsibility, and social justice. For example, they might include a belief that all students can learn, a vision of high and challenging standards, or a commitment to the safe and supportive learning environment (2002, p. 53).*

Because of the most recent public criticisms of dispositions “social justice” has been removed from the definition. Notwithstanding, teacher candidates enter teacher preparation programs with strong beliefs that are often difficult to affect. These beliefs and attitudes are frequently based upon candidate’s own personal experiences within and outside the education system. The degree to which teacher candidates process, acquire, and apply knowledge gained throughout their preparation is strongly influenced by these preexisting belief systems (Richardson, 2003). Understanding candidate dispositions can assist faculty in facilitating candidates’ critical thinking about the knowledge and skills they are being exposed to. The inquiry of dispositions can provide faculty with valuable information as they observe candidates trying to make sense out of what they are learning.

Because instruction is guided by personal beliefs and attitudes and because existing belief systems are difficult to affect, it is important that teacher educators inform themselves about the dispositions of teacher candidates at the beginning and at the end of preparation programs. Wenzlaff (1998) indicated that when candidates move into the student teaching experience their preexisting belief systems prevail. Beliefs should change or at least undergo introspection throughout an academic program as new information and experiences are formed (Richardson, 2003). Therefore, it is imperative that preparation programs whether seeking accreditation or not

should know candidates' dispositions and attempt to provide what Day (1993), Denicolo and Pope (1990), Goodson (1992a; 1992b), Kelchtermans (1993), and Woods (1993) call critical incidents that foster positive changes in professional behavior. Before a program can prompt critical incidents, a baseline understanding of candidate dispositions should be determined.

Those early dispositions can be influenced by critical incidents strategically and systematically promoted during preparation.

### **THE CONTEXT FOR A DISPOSITIONAL STUDY**

Giving the inherent difficulty in changing existing beliefs coupled with the relatively short duration of a teacher preparation program, developing a valid lens through which candidate dispositions can be examined is not a simple undertaking. Due to the importance and implications of understanding teacher candidate dispositions, this study established an effective process for developing a dispositional inventory. Participating faculty began by designing a framework that would: a) remain constant across teaching disciplines; b) integrate into the unit's electronic assessment system; c) provide candidates with a mechanism for comparison and self-reflection; d) provide the unit with data that would inform faculty about whether candidates were acquiring the conceptual values faculty agreed were important to learn; and e) prove to be scientifically valid and reliable.

The dispositional inventory neither supplements nor supplants the current data gathered by the CTL Teacher Preparation program, which includes a Character and Fitness Supplement; two recommendation forms, at least one by a teacher, or a professor; and another recommendation completed by an employer, or someone who knew the candidate well enough to comment on his or her disposition to teaching. Moreover, an existing voluntary process for faculty to signal concerns about perceived negative candidate dispositions continues to involve a

due process procedure using written referrals to: a) the department chair for disciplinary action, b) the Associate Dean of the college, if needed, and lastly c) the Vice President of Student Affairs, if warranted. What was missing was a way to examine how well the unit was influencing candidate dispositions as they progressed through the teacher preparation program.

The study was conducted in an NCATE accredited unit entitled the Center for Teaching and Learning (CTL), which offers teacher education to approximately 2,000 teacher candidates. The CTL is part of a Carnegie Masters I Comprehensive university consisting of over 9,000 students located in the northwestern region of the United States. The CTL is the unit that maintains leadership and authority over the preparation of professional education candidates. It is the CTL unit's responsibility to create and maintain communication across three colleges and thirty programs involved in the preparation of teachers and other school personnel. All deletions or additions to unit program requirements and curricula must first be approved by a tiered governance system, which allows for a process of stakeholder input and feedback.

The governance system proved to serve well in the process of developing of the dispositional inventory. The unit faculty believes the preparation program should purposely help candidates' develop professional dispositions. They also believe a fair, consistent, and accurate measure must be used to determine whether the preparation is effectively affecting candidate beliefs and attitudes. The inventory was not designed for, and therefore will not be used to counsel candidates out of the program. Ultimately the unit believes in the use of scientifically based aggregate data to inform faculty on how well candidate dispositions match what the faculty believe to be appropriate professional attitudes and beliefs. The dispositional mission for the preparation program is two-fold. First, to provide a mechanism for candidates to recognize where their dispositional values fall in relation to the central tendencies of their classmates and to

reflect upon changes they have made or would like to make in their own disposition for teaching. Second, to report in aggregate form the central tendencies of candidate dispositions that will inform faculty of how well the preparation incidents are influencing the development of professional behavior as defined in the conceptual framework. Therefore, the purpose of this study was to design an assessment instrument that would provide valid and reliable data relative to the identification and change of teacher candidate dispositions as they progress through the preparation program.

## **RESEARCH ON DISPOSITIONAL DOMAINS**

The conceptual framework designed by the CTL faculty, is a document that integrates major philosophical beliefs and practices that should be incorporated into the knowledge, skills, and dispositions of teacher education candidates. Following a critical review of the conceptual framework, four domains emerged. Four members of the research team each chose a domain and completed a literature review, specifically seeking consensus in the literature concerning elements in the domain. The following section identifies each of the four domains, the elements that comprise the domains, and a brief review of the literature supporting dispositional items selected to be included in the assessment instrument.

### **Teacher candidates recognize they are professionals engaged in a scholarly and collaborative pursuit**

*Teacher candidates participate in a community of scholars who devote their energies to improved educational opportunities for all learners. Teachers remain current in their disciplinary fields and in the technical skills of pedagogy. They demonstrate professional communication and collaboration skills. They behave professionally within the school environment and in the community. They believe that they are part of a larger community of*

*professional educators and learners, collaborative relationships benefit both teachers and students, and P-12 schools both reflect and define the community.*

Karasoff (1999) stated that “There is no doubt this is the decade of collaboration” (p. 53). Although content and pedagogical professional development remain important teacher foci, research supports the contention that collaboration increases teachers’ understanding of student behavior (Cousins, Ross, & Maynes, 1992; Smith (2001); Zeichner, Tabachnick, & Densmore, 1987). Furthermore, the importance of gaining skills in collaboration and culturally responsive professional communication with parents, community, other teachers, and other school personnel has been cited extensively in the literature (Casto, 1994; Knapp, Barnard, Brandon, Gehrke, Smith, & Teather, 1994; Lawson, 1999; Lawson & Hooper-Briar, 1994; Tellez & Schick, 1994; Wilson, Karosoff, & Nolan, 1994). Of parents, community, teachers, and other school personnel, research supports that parental involvement positively impacts student grades (Epstein, 1991; Henderson & Berla, 1994; Keith & Keith 1993). Buttery and Anderson (1999), stated, that, “Three decades of research have demonstrated that parental participation significantly contributes to student learning” (p. 113).

According to Xu (2003), a plethora of studies suggest that remaining engaged in the professional literature positively impacts collaboration between teachers and between teachers and administrators. In a study involving principals Sparks (2004) referred to a collective vision of professional development that supported research-based strategies as a means to enhance teaching effectiveness. Levin and Rock (2003) revealed an increasing amount of research that suggested teacher scholarship does authenticate pedagogical practices. Therefore, it is important that teachers become collaborative scholars to remain

current in their disciplines and in pedagogy and to realize the value and effectiveness of their work. Remaining current with the literature is paramount for the continuous improvement of evolving teachers. According to Johnston (2003) remaining engaged in the professional literature correlates with teaching effectiveness.

### **Teacher candidates recognize their responsibility to create life-long learners**

*Teacher candidates engage learners in exploration, critical and divergent thinking, and problem solving. They promote multiple and global perspectives in the activities they arrange. They use a variety of teaching strategies appropriate to learning goals. They individualize instructional procedures in keeping with the readiness of the learner. They believe that teaching involves using a variety of strategies and techniques, and assessment is the primary link between curriculum and instruction. They believe content and pedagogy are equally important.*

Teacher education faculty must model lifelong learning in ways that instill excitement of learning in candidates they are preparing to teach. According to Candy (1991), “Lifelong learning takes, as one of its principal aims, equipping people with skills and competencies required to continue their own ‘self-education’ beyond the end of formal schooling” (p. 15). One responsibility of educators is to instill in others the ability to continue in the pursuit of knowledge independently. To accomplish this, students need to understand their own learning processes and take responsibility for their own learning (Marra, Campese, & Litzinger, 1999). Teachers can facilitate learning by employing a repertoire of teaching strategies appropriate for use with their students.

Since there are a variety of ways to learn, students utilize a variety of approaches and teachers need to utilize a variety of strategies (Darling-Hammond, 1995). Constructivism, constructing knowledge based on previous understanding and experiences and on the new

experiences encountered, serves as the philosophical foundation for the CTL teacher preparation program. Learning activities embedded in cooperative and collaborative learning, incorporating student understanding and interests, and providing specific, positive feedback not only facilitates learning but increases student motivation (Kerssen-Griep, Hess, & Tees, 2003). Employing learning strategies and opportunities in novel settings allows students to construct learning from these new experiences. Teachers not only need subject matter knowledge to be effective, they must also have knowledge of student experiences, learning styles, and development (Darling-Hammond, 1995). Ultimately, teachers need to provide appropriate learning tasks and an environment in which students develop the skills to take responsibility for their own learning.

### **Teacher candidates recognize the need to be self-reflective practitioners**

*Teacher candidates recognize their own strengths, challenges, values, and beliefs. They are reflective about the work they do and evaluate the effect of their work on learners. They know what they believe about how learners learn and the role of the teacher. They recognize that they are role models for learners. They believe that all children can learn, teaching can be, should be, and often is facilitative of learning, and professional educators possess a wide range of knowledge, abilities, attitudes, and skills.*

Effective educators have the technical skills, critical inquiry, and reflection skills that allow them to examine and evaluate their own teaching, students' learning, and the surrounding educational and societal landscape that impacts pedagogy, curriculum, and student learning. It is this ability to effectively self-reflect and act on these thoughts accordingly that allows the novice educator to move toward becoming a master, expert teacher (Mills & Satterthwait, 2000). A longstanding goal of teacher preparation programs has been the development of reflective practitioners (Cruickshank, 1991;

Giovannelli, 2003; Houston & Warner, 2002). Cruickshank (1991) defines reflection as: "an internal examination or consideration of an issue of concern; an active purposeful process pursued with intent; a key element in gaining meaning from experience; an inherently individual process, even though it make take place with others" (p. 19). This multifaceted cognitive process supports educators in examining their own attitudes, dispositions, and skills in order to make reasoned and supported instructional decisions (Risko, Vukelich, Roskos & Carpenter, 2002). Cromwell (1994) underscores the importance of reflection in the development of leadership skills in educators by stating, "Self knowledge and the willingness to develop and grow is the foundation for empowerment and strongly connected to effective restructuring" (p. 154).

For teacher candidates, reflection plays an important role in both coursework and field experiences (Henning, DeBruin-Parecki, Hawbaker & Wilson, 2005; Jennings & Potter-Smith, 2002). Self-reflection allows novice educators to clarify meaning, to make sense of past and present experiences, and to be deliberate and to question practices that have been taken for granted (Cruickshank, 1991; Risko, et al., 2002). The ability to consider experiences and information from multiple perspectives assists teacher candidates in developing an openness to new ideas and situations and in understanding and responding to students, families, educators, and situations that are less traditional or familiar (Jennings & Potter-Smith, 2002; Risko, et al., 2002; Whipp, 2000). The critical thinking skills required in reflective practice allow teacher candidates to become thoughtful consumers of educational literature and research and to think about and make connections between theories and information learned in classes with actual practices demonstrated in field experiences (Kahne & Westheimer, 2000). Reflective practice

provides prospective and practicing educators an avenue to examine teaching strengths and weaknesses (ERIC, 1995). Subsequently, self-confidence in teaching skills can be enhanced (Lee, 2004). This heightened self-awareness of teaching attitudes and practices must be supported through an on-going and systematic process (Cruickshank, 1991; Rogers, 2002) and teacher educators must provide a venue as well as instructional support for effective reflective practices (Risko, et al., 2002).

### **Teacher candidates recognize their responsibility to support learners**

*Teacher candidates support personal growth, self-awareness, and positive self-concept in learners. They set high standards but then support learners in their achievement of them. They are culturally responsive to individual differences. They establish empathic, cooperative relationships with and among learners. They recognize the role of motivation in the learning act. They believe knowledge is richer when it is created by the learner, more meaningful when it is related to prior knowledge, and shaped by both the cultural and social diversity of students and their communities.*

The responsibility to support learners is indicative of the thinking that created the Center's mission; "Preparing facilitators of learning for a diverse world." The supporting research found in Geneva Gay's book (2000) and award winning article (2002) captured the intent and formed the literature support for this domain's values of preparing candidates who are culturally responsible. Furthermore, the research on developmentally responsible and socially equitable teaching and learning supports the importance of a teacher candidate's responsibility to support the broad range of learning desires of students. Knowledge of differentiated learning, a variety of instructional strategies, classroom management techniques, and family and community involvement are

associated with this domain.

Differentiated learning is a philosophy about teaching and learning (Tomlinson, 2003). By differentiating instruction, teachers increase their comprehension of the whole student and understand that assessment is dynamic and continuous (Tomlinson, 1999). In order for teachers to provide students with more opportunities to show their learning process and understanding of the subject being taught, preparation programs should emphasize a range of teaching and learning strategies to make learning more natural (Mbuva, 2003). Moreover, Johnston (2003) indicated that when culture is meaningfully contextualized, construction of instructional knowledge is authenticated. Johnston also argues that learning activities must be a part of the constructivist cognitive process. Johnston's research revealed that using authentic content knowledge, language, higher order and critical thinking activities modeled in preservice instruction will improve candidates' attitudes as future teachers.

One challenge all candidates and novice teachers now face greater than ever before is how to manage an effective classroom. Wong and Wong (2004) claimed that learning is influenced by effective management. Furthermore, Wong and Wong indicated that in order to meet the needs of all students, candidates have to be able to develop clear expectations, rules, procedures, and guidelines as part of their responsibility to support learning.

Candidates also need to be aware of the importance of community and family. Significant amounts of evidence have shown that parental involvement contributes to successful learning experiences. Buttery and Anderson's (1999) review of the literature demonstrated the interconnectedness of communities, schools, and parents. The research

they cited indicated that parental involvement significantly increased learning, lowered drop out rates, increased attendance rates, and improved motivation and confidence in students.

## **THE DISPOSITION STUDY**

### **Methods**

In order to identify measurable dispositions for teacher candidates admitted to the CTL, an ad hoc assessment committee was formed with members including the director of the Center and three teacher education faculty members. The charge of the committee was to identify appropriate dispositions and determine a reliable and valid means for measuring them. The committee began by reviewing the dispositional portion of the unit's conceptual framework and updating it to be more closely aligned with current national, state, and institutional standards. Once that task was completed, it was determined that four domains emerged. The domains were then divided among the four ad hoc committee members who individually conducted a review of the literature (partially reported previously in this paper). Survey questions were designed that reflected the elements of each domain. To be included in the study, each question had to be supported by at least two credible research references from the professional literature thereby establishing initial content validity. Committee members met weekly to discuss questions and design. Each member was asked to narrow the list and write ten questions that succinctly captured the essence of a particular domain's elements. The committee then reviewed the questions looking for redundancy across the four domains and clarified meaning. A five-point Likert scale (strongly agree, agree, neutral, disagree, strongly disagree) was chosen because it is the most commonly utilized scale to consider differing patterns of possibilities within a population. In order to ensure that acceptable responses were not all in the "strongly agree"

category, a sample of the questions were rewritten so that “strongly agree” and “strongly disagree” were mixed among acceptable responses. The plan was to elicit polarization and examine consistency among the responses.

The survey was shared with the CTL Executive Council comprised of deans of the three colleges that prepare teacher candidates (Arts & Humanities, Education & Professional Studies, and Sciences) and a school superintendent, the CTL Advisory Council (members include the associate deans and faculty members from the three previously identified colleges), the Department of Education, and the Teacher-Professional Education Advisory Board. The survey was again edited based on feedback received from the four groups. The final survey was designed to be electronically administered using the Center’s e-portfolio system (LiveText). Although, too avoid treatment diffusion and reactive arrangements the administration of this study’s inventory used a paper and pencil version that was distributed by volunteer faculty in classes to sub-groups of beginning candidates, and finishing student teacher candidates (N=240) during the Spring of 2005 all on the same day.

## **Subjects**

The CTL teacher candidates used as subjects for this study were all working on their initial certification as either undergraduates or as certification-only graduate candidates. The mean ages of program completers Spring Quarter 2005 were 27.7 and 34.5 respectively. Mean ages for the beginning group ranged one to two years younger. Examination of the demographic data (N=1,243-1,256) since 1996 demonstrated that the population has remained relatively consistent with only slight increases in age (four years older for certification only subgroup) and slight increases in ethnic representation. The study group represented 14 percent diversity. Ninety-three percent of the candidates were full time students.

## Results and Discussion

### Initial Item Screening

The initial instrument analysis considered responses by all candidates regardless of the number of items responded to by each candidate. Across the 40 items on the instrument there was a maximum of 238 respondents. Each of the 40 items consisted of a single sentence stem, 23 intended to reflect views generally held by CTL unit (i.e., derived from the CTL's conceptual framework) and 17 intended to reflect views contrary to those held by the unit. The response options ("strongly disagree", "disagree", "neutral", "agree", and "strongly agree") were assigned integer values of 1 through 5 respectively for initial data analysis purposes.

The assumption made was that the faculty's view regarding general agreement or disagreement with a question would be the same as the candidates', although some variation was expected. This assumption derived from the belief that a sample of candidates in a teacher preparation program would tend to share the dispositions both common and appropriate for the education profession. If this assumption was valid, then one would expect the mean response for an item to be greater (in the case of agreement with the faculty view) or less (in the case of disagreement with the faculty view) than the mid-value ("neutral") for all items on the scale. As noted above, this mid-value is always "3."

Responses to four items clearly violated this assumption in that the mean responses were slightly in the opposite direction of that anticipated (see Table 1). Two additional item means were so close to the mid-value that their utility for the scale was deemed extremely weak. These two items had means of 2.73 and 2.78, whereas all other item means were either greater (agreement expected) than 3.72 or less (disagreement expected) than 2.24. The means for these two items differed from the mid-value by less than 0.3 standard deviations. No other items with

means in the anticipated direction differed from the mid-value by less than a 0.78 standard deviation. All six items were eliminated in further analyses of the scale. They were item numbers 1, 12, 13, 15, 18 and 22. It should be noted that for all these items the expectation was that there would be disagreement with the statement. The results for these items may have reflected a tendency for respondents to agree with statements that did not exceed a threshold of incredulity.

### Instrument Reliability

The following analyses were based on a 34 item instrument (i.e., removing the six items noted above), 23 of which reflected agreement with the faculty's views and the remaining 11 reflecting disagreement. Prior to the analyses, items for which disagreement was expected were reassigned the appropriate value as items that were worded. (e.g., the original assignment of a value of 1 for items which disagreement was expected was re-assigned the value of 5, a value of 2 ... the value of 4, etc.). Doing this produced a scale in which all items were added to yield a meaningful total scale score. Also, the following analyses included only the 198 teacher candidates who provided responses to all items.

All item scores correlated with the total instrument score ( $p < .01$ ) using the Spearman rho correlation coefficient. The coefficients ranged from .21 to .67. This would be expected if each item was generally indexing a common underlying disposition. Additionally, an internal consistency analysis of the 34-item instrument yielded a Cronbach Alpha of .90, suggesting good reliability.

### Instrument Validity

Two analyses were conducted to ascertain validity of the instrument. The first hypothesized that the longer candidates experienced the preparation program the stronger their

commitment to its beliefs. One would expect the total score on the instrument to be greater for candidates at a more advance level of candidacy (e.g., end-point candidates) than those at an earlier level (e.g., entry candidates). A t-test comparing the total scores of entry candidates ( $M = 135.86$ ,  $SD = 11.12$ ) to end-point candidates ( $M = 143.56$ ,  $SD = 14.33$ ) confirmed this hypothesis,  $t$  with equal variances not assumed (105.27) = 3.82,  $p < .01$ ,  $d = .60$  (see Table 1).

The second analysis sought to determine if the domains identified in selecting items for inclusion in the instrument were reflected in the pattern to which the candidates responded to the items. While the reader should refer to the earlier discussion, the four domains were candidates' recognition of their responsibility to: a) be professionals engaged in a scholarly and collaborative pursuit (PESCP); b) create life-long learners (CLLL); c) be self-reflective practitioners (SRP); and d) support learners (SL). Of the 34 items on the screened instrument, 9, 6, 9 and 10 items remained for each of these domains respectively.

The SPSS principal component Factor Analysis with varimax rotation was performed limiting the number of factors to 4. Each item was identified with the factor for which it was most highly correlated. Factor 1 had 10 such items, Factor 2 had 9 items, Factor 3 had 8 items and Factor 4 had 7 items. The question posed concerned the actual distribution of domain items across the factors when compared to random distribution expectancies. For example, a random distribution of the 9 items originally identified as belonging to the PESCP domain would yield expected frequencies of 2.65 for Factor 1, 2.38 for Factor 2, 2.12 for Factor 3 and 1.85 for Factor 4. (i.e.,  $10/34 \times 9$ ,  $9/34 \times 9$ ,  $8/34 \times 9$  and  $7/34 \times 9$  respectively). Appropriate expected frequencies were generated and compared with the observed frequencies in a 4 x 4 contingency table. The resulting chi-square was significant suggesting a non-random response pattern across the items,  $\chi^2 = 37.29$  (9),  $p < .01$ . Specifically, 6 of the 10 items most highly correlated with Factor 1 were

SRP items, 5 of 9 most highly correlated with Factor 2 were CLLL items, 5 of 8 most highly correlated with Factor 3 were SL items and 5 of 7 most highly correlated with Factor 4 were PESCP items. It appears that the construct validity sought in selecting items from the four domains was moderately confirmed in the pattern of candidate responses to the items as these domains tend to be reflected in a factor structure for the instrument.

### **Conclusion**

It is interesting to note that faculty of the CTL found the data reassuring, that instruction was in fact providing the critical incidents within the program that advanced the dispositions of candidates. It is believed that the process used in the instrument development led to its successful validation. Completing the arduous task of defining domains and items within each domain that were supported by educational research established a solid foundation for the instrument's initial content validity. The items also were assessed for their alignment to university, state, and national standards. Even though the research team felt the design process was thorough, they were surprised to discover the significant difference between candidates newly admitted to candidates completing the program, and such strong correlations among domain factors the first time the instrument was used. Furthermore, a strong positive correlation between beginning candidates from Spring and Fall 2005 indicated reliability robustness. The results have not only provided information to the faculty about the preparation of CTL candidates, they also demonstrated the extent to which faculty have effectively embedded the standards, current knowledge base, philosophy, and dispositional values of the conceptual framework within their teaching.

*Limitations*

The research on this instrument is not complete, but the authors felt obligated to share what had been discovered thus far with institutions interested in the measurement of dispositions. Future investigations will study differences in age, gender, and ethnicity. Although the research team is fairly confident there will be no significant differences, those tests of discrimination and predictability need to be conducted. Furthermore, since there was a significant difference between entry and ending candidates, the faculty is interested in knowing when during the program the dispositions are acquired. Although it is assumed acquisition occurs during the candidate's coursework, it is unknown whether the change occurs during the coursework, at the end of coursework, or during student teaching.

**Inventory Access**

Requests for copies of the dispositional inventory should be forwarded to the lead author ...*We will add that contact if the manuscript is accepted and during the revisions to protect the blind review process.*

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Table 1

## Disposition Item Statistics by Domain

Responses on a five-point Likert Scale (N=238) Item Means (M), Item Standard Deviations (SD), and Item Difference Between Mean and Neutral Score (M-3)

“Teacher candidates will...”	M	SD	M-3
<b>Domain 1: recognize they are professionals engaged in a scholarly and collaborative pursuit</b>			
Q (Eliminated) Teaching within my discipline is more effective for K12 student learning than team teaching using an interdisciplinary approach.	2.7	0.9	(0.27)
Q30 My professional responsibilities should not extend beyond my classroom.	1.9	0.9	(1.07)
Q12 I can remain current in my discipline with only occasional research and inquiry.	2.1	0.9	(0.86)
Q27 I will be expected to lead teams of other professionals to decide upon, policy, curriculum, and staff development.	3.8	0.7	0.84
Q16 To improve K-12 student learning, I should utilize the cultural experiences of families within the community.	4.4	0.7	1.42
Q24 Parental participation in my classroom could negatively impact K-12 student progress.	1.9	0.9	(1.09)
Q25 To be a good teacher, it will be important to learn teamwork skills during my preparation program.	4.4	0.8	1.41
Q19 It will be important to develop communication skills for inviting interactions with parents.	4.5	0.7	1.47
Q28 Showing respect for diverse professional opinions about teaching practices demonstrates a lack of self confidence.	1.8	1.0	(1.24)
Q9 Learning K-12 student advocacy skills should be a necessary component of a preparation program.	4.0	0.8	0.95
<b>Domain 2: recognize their responsibility to create life-long learners</b>			
Q7 Learning to teach is a lifelong process	4.7	0.6	1.73
Q (Eliminated) K-12 students understand their own learning processes.	2.8	0.9	(0.20)
Q (Eliminated) Opportunities for K-12 students to engage in collaborative inquiry occur naturally in the classroom.	3.2	0.9	0.20
Q20 I plan to develop a repertoire of teaching strategies appropriate for use with all K-12 students.	4.2	0.8	1.21
Q (Eliminated) In-depth knowledge of content is most important in promoting greater K-12 student understanding.	3.5	1.0	0.54
Q5 Curriculum decisions should reflect an understanding of human development using current research.	3.9	0.7	0.94
Q23 Connecting curriculum to the interests of K-12 students is an effective strategy I plan to use in my teaching.	4.5	0.7	1.46
Q (Eliminated) K-12 students will take on responsibility of their own learning.	3.2	1.0	0.24
Q15 Developing appropriate learning tasks for K-12 students will ensure student growth in my classroom.	4.2	0.6	1.23
Q26 It will be necessary to participate in continuous professional development to increase my knowledge of effective teaching/learning	4.4	0.8	1.45
<b>Domain 3: recognize the need to be self reflective practitioners</b>			
Q29 Reflection is important in evaluating how my teaching beliefs and practices impact individual students.	4.5	0.6	1.45
Q (Eliminated) If I am knowledgeable about teaching, I will be a good teacher.	3.1	1.1	0.09

“Teacher candidates will...”	M	SD	M-3
Q21 Reflective activities required in courses ( e.g., journal writing, portfolio reflections, and case studies) are busy work irrelevant to teaching practice.	2.2	1.0	(0.81)
Q13 Having self-awareness of my teaching strengths and weaknesses will assist me in making informed decisions for more effective teaching.	4.4	0.7	1.43
Q4 Self-reflection required in practicum experiences will provide me with more confidence in teaching.	4.0	0.8	1.00
Q32 Self-reflective assignments will help me make better connections between theory and practice.	3.7	0.8	0.73
Q18 My own experiences as a student will have little influence on what I do as a teacher.	1.9	1.0	(1.06)
Q31 The role of self-reflection in designing personal teaching goals is valuable	4.1	0.7	1.05
Q8 Self-reflection will assist me in solving instructional problems I will face as a teacher.	3.9	0.8	0.95
Q1 My beliefs and attitudes about educating learners may change as a result of this preparation program	3.7	0.8	0.73
<b>Domain 4: recognize their responsibility to support learners</b>			
Q14 Diversity (gender, ethnic, racial, socio-economic, and academic) in a classroom is an educational asset to student learning	4.4	10.8	(1.35)
Q17 It is unrealistic to fully commit to both developmentally responsive and socially equitable teaching and learning for all students.	2.2	10.7	(0.77)
Q33 Community values, skills, and resources should be used to support student learning.	4.3	10.9	(1.34)
Q3 Ideas and interests of students should not impact curriculum planning.	1.7	10.7	(1.26)
Q22 Effective classroom management strategies are fair, equitable, and developmentally appropriate.	4.4	10.9	1.39
Q10 Strategies that actively engage all students in the learning process decrease achievement.	1.7	10.7	(1.34)
Q2 Inclusive learning opportunities for students with special needs are not my responsibility.	1.6	0.8	0.79
Q6 Higher order thinking skills should be a primary focus in planning curriculum.	3.8	0.8	0.79
Q34 Making connections for students using their prior experiences will enhance student achievement.	4.5	0.0.7	1.51
Q11 Integrating subjects across content disciplines is confusing for students.	2.1	0.0.9	(.93)

Table 2

Item Distribution by Disposition Domain and Primary Factor

Disposition	Factor 1	Factor 2	Factor 3	Factor 4
Domain	(10)	(9)	(8)	(7)
PESCP (9)		9, 19, 25, 27		12, 16, 24, 28, 30
CLLL (6)	15	5, 7, 20, 23		26
SRP (9)	1, 4, 8, 29, 31, 32	13	18	21
SL (10)	14, 22, 33		2, 3, 6, 10, 11, 17, 34	

Note. Numbers in parenthesis are the numbers of items in the domain or factor. Item domains are the candidates' recognition of their responsibility to be professionals engaged in a scholarly and collaborative pursuit (PESCP), create life-long learners (CLLL), be self-reflective practitioners (SRP), and support learners (SL).