
The Development, Validation and Implementation of a Professional Disposition Instrument for Educator Preparation Programs

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Abstract: The identification and measurement of professional dispositions is widely recognized as an important component of any assessment system in educator preparation programs for pre-service teachers and other school professionals. Professional dispositions are the shared attitudes, values, beliefs, and behaviors that are expected from and demonstrated by educational professionals in a variety of different settings through their interactions with others. Teacher educators in the School of Education at a midsize public midwestern university recently developed and validated an instrument to measure the professional dispositions of candidates both on campus and during clinical field experiences. The process included identifying the purpose, forming a committee, researching the literature, developing the instrument, validating the instrument, and forming an implementation plan. The professional disposition instrument was developed by a committee of seven faculty and staff in the School of Education representing seven different undergraduate and graduate educator programs. The professional disposition instrument was validated by conducting a survey of the Program Advisory Committees serving as a panel of external stakeholders and educational experts. The survey respondents rated each dispositional item as essential, useful but not essential, or not necessary. A Content Validity Ratio (CVR) was calculated for each professional disposition item based on the survey results. This article describes the development, validation, and planned implementation of the new professional disposition instrument, including a discussion of the benefits and challenges of the process.

Keywords: Teacher Education, Assessment, Dispositions

1. Introduction

Although there are multiple perspectives on the role of dispositions and the impact of teacher dispositions on student learning, dispositions are widely discussed within the literature by researchers and teacher educators as essential for becoming a successful teacher [1-5]. In fact, many teacher educators place dispositions at a level of importance on par with the content and pedagogical knowledge and skills of a teacher [4, 6]. Bair states that professional dispositions are vital to the teaching profession and defines them as “the professional identity of teachers” [1]. According to Fonseca-Chacana, the dispositions of a teacher provide the

teacher with the will and power to implement and enact knowledge and skills within the teaching and learning environments [3]. Ultimately, this will or volition relates to the beliefs and the body of research that teacher dispositions have an impact on student learning [4, 6]. These dispositions play a key role in how teachers act in classroom practice [5].

Today’s learners need both the academic knowledge and professional dispositions necessary to navigate the world, including attributes such as problem solving, curiosity, creativity, innovation, communication, interpersonal skills, the ability to synthesize across disciplines, global awareness,

ethics, and technological expertise [5]. If dispositions rise to this level of importance, so does the need to have valid and reliable means of assessing dispositions. Teacher educators in the school of education at a midsize midwestern university have worked to develop and validate a professional disposition instrument in order to monitor and provide feedback on teacher candidates' dispositions throughout their journey to becoming teachers.

The Council for the Accreditation of Educator Preparation [7] requires that educator preparation institutions be accountable to assure that educator candidates possess the declarative knowledge, skills to put that knowledge into practice, and the requisite dispositions that influence how teachers act in practice [1, 5, 8]. Accreditation for educator preparation programs requires an emphasis on assessing educator dispositions with valid and reliable instruments [9]. Unlike the assessment of knowledge and skills in the field of education, the specific dispositions to be assessed are not clearly identified by the accrediting bodies [4, 10]. Therefore, the educator preparation program must define, identify, and operationalize the desired and measurable professional dispositions of their candidates. Asempapa and Cummins state that because of this program assessment, it is imperative that there is some form of consensus on the definition of disposition and its attributes to assess a teacher candidate's successful completion of the program before entering their profession [10].

Defining the dispositions found in high level teacher candidates proves difficult, as multiple definitions can be found in the literature [4, 11]. Dispositions have been described as perceptions [6], a cluster of habits [8], temperaments [12], and affective and social learning objectives [4]. They have also been defined as a frequent expression of attitudes in a consistent pattern of behavior [1], internal attributes, "habits of mind" or psychological characteristics that motivate action [13], and professional attitudes, values, beliefs, observable traits, or behaviors [14]. The authors utilized a definition of dispositions as the "professional attitudes, values, and beliefs demonstrated through both verbal and nonverbal behaviors as educators interact with students, families, colleagues, and communities" from the National Council for the Accreditation of Teacher Education to inform the development of the disposition instrument described in this paper [14].

Most recently CAEP [7] and InTASC [5] aligned their definitions by indicating that critical dispositions are habits of professional action and moral commitments that underlie a teacher's performance. Because of the belief that dispositions underlie how teachers act in practice, the InTASC standards include critical dispositions for every standard alongside the performances and essential skills needed for teacher success to meet the needs of learners [5]. Because of the importance of dispositions for teacher candidates, an emphasis in teacher education needs to be given to teaching, developing, and modeling them [15, 16]. In addition, educator preparation programs must consider the development of disposition assessments as equally important to the development of assessments of knowledge and skills.

2. Assessment of Dispositions

Assessing dispositions of teacher candidates continues to be an area of debate within the teacher education literature. The challenges of assessing dispositions often arise from the lack of consistent definitions for dispositions and a clear description of the desired dispositions [15]. Regardless of the debates about the ability to assess dispositions, teacher educators continue to work to define dispositions and develop disposition assessments in an attempt to measure proficiency and provide feedback to teacher candidates on their dispositions to support their continued growth and development as future educators. The ability to assess teacher candidates' dispositions relies on the importance of a clear and consistent definition of dispositions with criteria that are visible and understood by both the teacher educators and the teacher candidates [2, 15, 16]. Diez [16] recommends five guiding principles for the assessment of dispositions:

- 1) Dispositions should be named and made visible and concrete.
- 2) Assessments should occur in both structured and natural situations.
- 3) Dispositions should be assessed over time.
- 4) Assessment criteria should be public and explicit.
- 5) Faculty must model the dispositions they want candidates to hold.

There is support for the assessment of dispositions being conducted on both actions and reflections [1]. In addition, consensus exists that assessment of disposition does not rely on a single measure and that the assessments occur at several key points within the journey to become a teacher [1, 16]. Examples can be seen where Early Childhood Educators at the University of Memphis are assessed utilizing a checklist during courses at the beginning, middle, and end of their teacher preparation program [2]. Teacher candidates at Eastern Connecticut State University are assessed at multiple times utilizing university developed tool that has five scales (perceptions about self, perceptions about others, perceptions about subject field, perceptions about the purpose of education and the process of education and General frame of reference perceptions [6]. There are also proprietary dispositions on the market, such as the Educational Disposition Assessment (EDA) developed by EDA, LLC and researchers from the University of Tampa that consists of a three-point rubric with nine-research-based dispositions meant to be implemented both within the college classroom and clinical experiences [17]. Although each of these disposition instruments takes a different approach to the scale, format, and dispositions assessed, the commonality lies in the overt discussion of connections to both CAEP and InTASC Standards, as well as how the instrument is a valid and reliable measure of teacher candidate dispositions.

There continues to be an emphasis on establishing validity and reliability for disposition instruments commonly used to evaluate future teachers [15, 18]. CAEP accredited institutions are required to provide both data reliability and data validity evidence, or at a minimum a plan that details how they will be

established [19]. Construct, content, concurrent, and predictive validity are examples of validity evidence that CAEP sees as sufficient [19]. Content validity can be achieved by inviting a panel of subject matter experts to give feedback on the importance of disposition instrument criteria and items [20]. The most commonly cited method used for establishing content validity is the Lawshe method [21, 22]. Welch, Pitts, Tenini, Kuenlen, and Wood state that “validity focuses not only on what is being measured, but on how the results of that measurement are being used” [18]. They argue that “each individual teacher education program should have the flexibility to include some disposition statements that may be particularly relevant to their geographical region or population of educators” [18].

3. Background

The institution highlighted in this article is a mid-sized, public midwestern university that offers a broad range of undergraduate and graduate educator preparation programs housed within a School of Education. The undergraduate educator preparation programs include art education, business education, early childhood education, family and consumer sciences education, marketing education, math education, science education, special education, and technology education. The graduate programs include school counseling and school psychology. These programs graduate approximately 100 undergraduates and 25 graduate level candidates annually.

The School of Education is situated in the College of Education, Hospitality, Health and Human Sciences and governed by the School of Education Council. The School of Education Council includes the interim associate dean of the college, certification officer, field experience coordinator, assessment coordinator, instructional specialist for electronic portfolio and assessment, and a program director for each of the programs listed above. The School of Education Council convenes monthly to conduct business necessary to maintain, promote and build upon the pre-service teacher education programs offered at the university. This includes the responsibility of maintaining and updating the common assessment system and assessment instruments utilized for program improvement, accreditation, and licensure.

4. Development Process

The School of Education Council identified the disposition assessment instrument as an area for improvement based upon the feedback provided during the most recent Council for the Accreditation of Educator Preparation (CAEP) review. The prior disposition assessment instrument lacked a clear foundation and connection to the professional research literature and relevant professional standards. In addition, the School of Education Council did not have sufficient evidence on the validity and reliability of the instrument to justify its continued use. The School of Education Council first considered adopting a disposition assessment instrument from

another institution. After reviewing several different instruments, the School of Education Council determined that the only approach to identifying and measuring the dispositions valued by all members and stakeholders was to develop an instrument locally. The process utilized to develop an instrument to measure professional dispositions in the School of Education is shown in Figure 1.

4.1. Purpose

In the spring of 2019, the members of the School of Education Council voted to develop a new disposition assessment instrument. At that time, it was determined that an ad hoc Disposition Committee would be formed to engage in the task of developing a new disposition instrument. The purpose of the Disposition Committee was to “develop a valid instrument to assess professional dispositions for undergraduate teacher candidates in the School of Education.”

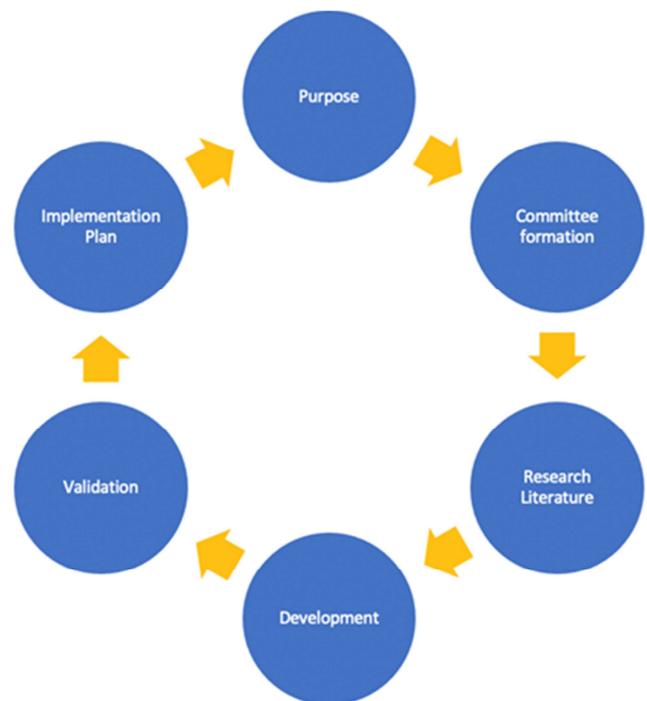


Figure 1. Development process.

4.2. Committee Formation

After receiving its charge, the next step in the process was to form an ad hoc Disposition Committee with representation of faculty and staff from multiple programs or discipline areas. The members of the School of Education Council were asked to nominate a faculty or staff member to participate on the Disposition Committee. At the time, the graduate programs utilized a different instrument to measure professional dispositions than the undergraduate programs. While eliciting nominations to participate on the committee to develop a new disposition instrument, faculty members of the graduate programs for school counseling and school psychology both expressed an interest in joining the work of the Disposition Committee.

The Disposition Committee included seven members representing seven different programs or disciplines, including: art education, early childhood education, family and consumer sciences education, marketing and business education, science education, school counseling, and school psychology. The breadth of programs represented provided the members an opportunity to examine the needs of various programs, with different teacher candidate populations. This diversity of perspectives proved to be an important component for the success of the committee and the quality of the instrument.

While the number of committee members had not been pre-determined, the seven-person committee was a very effective size, large enough to delegate responsibilities when needed and small enough to allow for the productive and interactive discussions needed to achieve consensus. The Disposition Committee met for the first time on September 23, 2019, to begin its work. The committee met on a regular basis throughout the fall semester. Meetings were face-to-face and scheduled for approximately one hour.

4.3. Research Literature

After the Disposition Committee was assembled, the committee began its work by examining the research literature on professional dispositions. This began by reviewing definitions of dispositions in the professional literature. While there are a variety of definitions in the research literature, the committee chose to use the definition developed by the National Council for the Accreditation of Teacher Education, which defined dispositions as the “professional attitudes, values, and beliefs demonstrated through both verbal and nonverbal behaviors as educators interact with students, families, colleagues, and communities” [14]. This definition encompassed the various aspects of professional dispositions, the actions that result from the dispositions, and the individuals affected by the dispositions of educational professionals. This definition of dispositions was later included on the statement of dispositions developed by the committee, which teacher candidates must sign in their electronic portfolios.

The Disposition Committee continued their review of the research literature to identify specific dispositions that could be measured by a disposition instrument for educator preparation programs in the School of Education. Based on a review of the professional literature, the Disposition Committee selected the Interstate Teacher Assessment and Support Consortium (InTASC) dispositions as the basis or conceptual framework for the work of the committee [5]. The InTASC dispositions provided a list of 43 different disposition items aligned to the InTASC standards. These dispositions were commonly cited by researchers in the professional literature and previously used by educator preparation programs to inform the development of local disposition instruments [5]. In addition, the School of Education already utilized the InTASC standards to assess the knowledge and skills of teacher candidates on other assessment instruments and the department of education utilized the InTASC standards for reviewing and approving the educator preparation programs throughout the state.

4.4. Development

After a review of the research literature, the Disposition Committee began the work of developing a disposition instrument based on the InTASC dispositions. While the InTASC dispositions were used as a conceptual framework, the committee unanimously agreed that 43 items were too many for a disposition instrument that would be completed by faculty, staff, and cooperating teachers for hundreds of teacher candidates at multiple points throughout the program. Therefore, the seven members of the committee each identified those dispositions they believed were essential for teacher candidates to demonstrate throughout the program and, therefore essential to be measured by the new disposition instrument. The Delphi technique for group decision-making was implemented by identifying those dispositions considered to be essential by each individual member of the committee, discussing the dispositions as a committee, and then making a final selection of those dispositions considered to be essential by a majority of the committee members [23]. The discussion engaged all members of the committee, representing multiple varied perspectives from different programs, and influenced the outcome of the dispositions rated as essential by the committee. While this process reduced the list of 43 original InTASC standards to ten dispositions, the discussion also generated five additional characteristics the committee believed to be essential for teacher candidates: appropriate dress, reliability, organization, receptive to feedback, and incorporates feedback.

The development process resulted in the identification of 15 dispositional items to be measured by the disposition instrument. After identifying the dispositions to be measured, the Disposition Committee created the disposition instrument in a format to maximize the ease of use for all stakeholders. The format of the disposition instrument was modified several times to reduce the instrument to a single page while allowing sufficient space for written comments and signature lines at the bottom. The disposition instrument utilizes a three-point Likert rating scale of unsatisfactory, emerging, or proficient. A category of not applicable was added for those classroom or clinical experiences where the rater may not have the opportunity to observe and evaluate a particular disposition. The disposition instrument is shown in Figure 2.

4.5. Validation

The development of the professional disposition instruments involved both an internal and external group of experts in the field of education. First, the Disposition Committee utilized an internal process to identify a list of dispositions based on the research literature, select the essential dispositions, and develop the new disposition instrument, as described previously. The Disposition Committee was composed of seven teacher educators, with expertise and experience in seven different discipline areas within the field of education.

After this internal process, the committee developed a survey to validate the 15 professional disposition items with a group of external stakeholders. To measure the content

validity of the disposition instrument, the committee utilized the Program Advisory Committees (PAC) for each program in the School of Education as a panel of experts. At the university, each program is required to maintain a committee composed of academic and industry experts outside of the faculty and staff in the program. The Program Advisory Committees for education programs often include teachers and administrators from local schools as well as other professionals in higher education. The Disposition Committee collected survey data from the panel of experts and calculated a Content Validity Ratio (CVR) to establish the content validity for each item on the new disposition instrument [21].

4.5.1. Methods

The Disposition Committee developed a survey that was given to the Program Advisory Committee members for each program in the School of Education. Prior to conducting the survey, the Disposition Committee obtained Institutional Review Board (IRB) approval at the institution to collect data to validate the instrument. The survey was composed of 22 questions, including 5 demographic questions, 15 selected response questions, and 2 constructed response questions. The demographic questions asked respondents to identify their

affiliated education program, employer, age, gender, and ethnicity. The selected response questions asked the respondents to rate each professional disposition on a three-point Likert scale as essential, useful but not essential, or not necessary [21]. Finally, the two constructed response questions asked the respondents to provide open-ended feedback on the instrument rating scale and any other recommendations for the disposition instrument.

The survey was constructed using Qualtrics XM software and distributed by email to the Program Advisory Committees for each undergraduate education program in the School of Education. The survey was sent to 133 individuals and received 72 responses, resulting in a response rate of 54.14%. The sample represented experts from eight program areas, with the largest response from those affiliated with the special education program (16 respondents). A description of the sample and response rates by program is provided in Table 1. The sample was composed of 42 female (58.33%) and 30 male (41.67%) respondents with average age of 47.25 years. The sample included 70 white (98.61%) and 1 Hispanic or Latino (1.39%) respondents. This is representative of the educational professionals in the community surrounding this midsize midwestern university.

Unsatisfactory (U) Does NOT demonstrate disposition.	Emerging (E) Demonstrates disposition; however, requires further development.	Proficient (P) Demonstrates disposition effectively.
Not Applicable (NA) Does NOT have the opportunity to demonstrate disposition.		
Disposition	Rating	Comments
Professionalism: The candidate demonstrates professional and ethical behavior.		
Appropriate dress for the setting	<input type="checkbox"/> NA <input type="checkbox"/> U <input type="checkbox"/> E <input type="checkbox"/> P	
Reliability in attendance and punctuality	<input type="checkbox"/> NA <input type="checkbox"/> U <input type="checkbox"/> E <input type="checkbox"/> P	
Organization and preparedness for the setting	<input type="checkbox"/> NA <input type="checkbox"/> U <input type="checkbox"/> E <input type="checkbox"/> P	
Adheres to school policy, law, and professional ethics	<input type="checkbox"/> NA <input type="checkbox"/> U <input type="checkbox"/> E <input type="checkbox"/> P	
Inclusive: The candidate demonstrates respect for equity, diversity, and inclusiveness.		
Respects strengths and needs of individuals	<input type="checkbox"/> NA <input type="checkbox"/> U <input type="checkbox"/> E <input type="checkbox"/> P	
Appreciates and analyzes multiple perspectives	<input type="checkbox"/> NA <input type="checkbox"/> U <input type="checkbox"/> E <input type="checkbox"/> P	
Identifies potential bias in the learning environment	<input type="checkbox"/> NA <input type="checkbox"/> U <input type="checkbox"/> E <input type="checkbox"/> P	
Reflective: The candidate demonstrates reflective and responsive practice.		
Thoughtful and responsive listener and observer	<input type="checkbox"/> NA <input type="checkbox"/> U <input type="checkbox"/> E <input type="checkbox"/> P	
Receptive to constructive feedback	<input type="checkbox"/> NA <input type="checkbox"/> U <input type="checkbox"/> E <input type="checkbox"/> P	
Incorporates feedback and makes appropriate adjustments	<input type="checkbox"/> NA <input type="checkbox"/> U <input type="checkbox"/> E <input type="checkbox"/> P	
Continuous Learning: The candidate is committed to continuous learning and improvement.		
Demonstrates intellectual curiosity in the discipline	<input type="checkbox"/> NA <input type="checkbox"/> U <input type="checkbox"/> E <input type="checkbox"/> P	
Applies current standards, policies, and research to inform practice	<input type="checkbox"/> NA <input type="checkbox"/> U <input type="checkbox"/> E <input type="checkbox"/> P	
Sets high expectations and takes initiative for continuous improvement	<input type="checkbox"/> NA <input type="checkbox"/> U <input type="checkbox"/> E <input type="checkbox"/> P	
Collaboration and Communication: The candidate collaborates and communicates effectively with others.		
Works collaboratively with all members of the learning community	<input type="checkbox"/> NA <input type="checkbox"/> U <input type="checkbox"/> E <input type="checkbox"/> P	
Communicates professionally and effectively with all members of the learning community	<input type="checkbox"/> NA <input type="checkbox"/> U <input type="checkbox"/> E <input type="checkbox"/> P	

Figure 2. School of Education disposition instrument.

Table 1. Survey sample and response rates by program.

Program	Recipients	Responses	Response Rate	Percent of Sample
Art Education	16	6	37.50%	8.33%
Early Childhood	13	6	46.15%	8.33%
Family & Consumer	14	8	57.14%	11.11%
Marketing & Business	15	9	60.00%	12.50%
Science Education	9	9	100.00%	12.50%
Special Education	26	16	61.54%	22.22%
Technology Education	15	11	73.33%	15.28%
Reading Education	25	7	28.00%	9.72%
SURVEY TOTAL	133	72	54.14%	100.00%

A quantitative analysis of the selected response questions was conducted by calculating the Content Validity Ratio (CVR) for each professional disposition in the survey. The CVR is a measure of the level of agreement by a panel of experts to rate an item as essential [21]. It can be calculated using the formula below, where n_e is the number of experts that rate an item as “essential” and N is the total number of experts who responded to the survey.

$$CVR = \frac{n_e - \left(\frac{N}{2}\right)}{N/2}$$

A CVR value may range from negative one to positive one. A CVR of negative one indicates complete agreement by a panel of experts that the item is not essential. A CVR of positive one indicates complete agreement by a panel of experts that the item is essential. The CVR value will typically be a number between these two extremes. In general, a positive CVR value indicates agreement by a panel of experts that the item is essential, while a negative CVR indicates agreement that the item is not essential.

A binomial distribution was used to determine the CVR value and critical number of experts required to validate and retain the item on the disposition instrument. The CRITBINOM function in Excel was used to perform the calculation with a probability of 0.50, alpha of 0.95, and sample sizes of 68 and 69. Given these factors, it was

determined that a CVR of 0.20 was required to validate each professional disposition. The critical number of experts needed to validate each item was determined to be 41 for sample sizes of 68 and 69. This approach to determining the CVR and number of experts needed to validate each item is recommended when calculating critical values for sample sizes with more than 10 expert raters [24], Researchers have suggested alternative methods of calculation for samples with 10 or fewer expert raters [25].

Furthermore, a qualitative thematic analysis of the selected responses was performed by coding each the responses and identifying salient themes that were repeated in multiple responses [26]. These themes are presented in the results sections. In addition, the quotations provided in the discussion section were taken verbatim from the survey responses to the selected response questions.

4.5.2. Results

The survey responses and CVR values for each professional disposition item are reported in Table 2. The positive CVR values demonstrate agreement by experts that the professional dispositions identified were considered essential for teacher candidates. The CVR values for each disposition item exceeded the minimum value required to validate the item as essential ($CVR \geq 0.20$). Therefore, all fifteen items on the professional disposition instrument for teacher candidates were retained in the professional disposition instrument.

Table 2. Survey responses and content validity ratios.

Disposition	Essential	Useful but not essential	Not necessary	Sample Size	Content Validity Ratio
Appropriate dress for the setting	47	20	2	69	0.362
Reliability in attendance	69	0	0	69	1.000
Organization and preparedness	63	6	0	69	0.826
Adheres to school policy, law, and professional ethics	67	2	0	69	0.942
Respects strengths and needs of individuals	67	2	0	69	0.942
Appreciates and analyses multiple perspectives	56	13	0	69	0.623
Recognizes potential bias	46	23	0	69	0.333
Thoughtful and responsive listener	59	10	0	69	0.710
Receptive to constructive feedback	63	6	0	69	0.826
Incorporates feedback and makes appropriate adjustments	62	7	0	69	0.797
Demonstrates intellectual curiosity in the discipline	49	18	1	68	0.441
Applies current standards, policies, and research to inform practice	50	18	0	68	0.471
Sets high expectations and takes initiative for continuous improvement	52	16	0	68	0.529
Works collaboratively with all members of the learning community	54	14	0	68	0.588
Communicates professionally and effectively	57	11	0	68	0.676

The highest levels of agreement by experts were in the areas of adherence to school policy, law, and professional ethics ($CVR = 0.942$), respect for the strengths and needs of individuals ($CVR = 0.942$), and reliability in attendance ($CVR = 1.000$). The lowest levels of agreement by experts were in the areas of recognizing potential bias ($CVR = 0.333$), appropriate dress for the setting ($CVR = 0.362$) and demonstrating intellectual curiosity in the discipline ($CVR = 0.441$).

The survey also included two open-ended items seeking feedback from the panel of experts in narrative form. The first open-ended survey item stated, “Please provide feedback on

the disposition evaluation instrument rating scale.” The second open-ended survey item stated, “Please provide any other recommendations for the development of a disposition evaluation instrument.”

There were 46 experts who responded to the first open-ended question about the rating scale. The majority of comments ($n=30$) to the first open-ended question were in support of the rating scale as presented in the survey. Five comments related generally to the sensitivity of the scaling, suggesting it was either too sensitive or not sensitive enough (*e.g.* “I would recommend a rating between emerging and proficient perhaps it would be sufficient.”). The remaining

comments (n=11) on this question had to do with the choice of descriptive terms (i.e. unsatisfactory, emerging, and proficient), offering different terms or suggesting edits to the definitions of descriptive terms (e.g. "Some assessors may want more criteria for Emerging and Proficient.").

There were 26 experts that responded to the second open-ended survey item, which stated, "Please provide any other recommendations for the development of a disposition evaluation instrument." A majority of comments (n=16) offered suggestions related to the scaling, which were very similar to comments offered in the previous question; some suggested additional rating options, while others offering different terms or definitions of descriptive terms (e.g. "I would like to see the categories of never, rarely, occasionally, usually and always."). Five comments offered suggestions about the timing of various items in relationship to the timing of when the disposition evaluation occurs (e.g. "Some questions I would feel would need to be more toward the end of their journey, so they knew and understood the role in the classroom.").

The feedback was reviewed by the Disposition Committee. Based on the preponderance of information collected, including the fact that many individual comments conflicted directly with others (such as some suggesting more rating options and some suggesting fewer), no specific changes were made to the disposition rating scale or instrument. The qualitative input to a large degree confirmed the support for the items and instrument validated by our experts.

4.6. Implementation Plan

In addition to the development and validation of the disposition instrument, the Disposition Committee also developed plans for the implementation of the disposition instrument in the School of Education Benchmark Assessment System. The School of Education Benchmark Assessment System is designed to measure the knowledge, skills, and dispositions of teacher candidates at multiple points, known as benchmarks, as they progress through the undergraduate and graduate programs. The knowledge, skills, and dispositions of teacher candidates are assessed by university faculty and staff at Benchmark I after the candidate has completed 40 credits at the university and again at Benchmark II prior to student teaching. The knowledge, skills, and dispositions of teacher candidates are also assessed by cooperating teachers or school personnel at Benchmark III at the completion of a student teaching or internship clinical experience.

In addition to the use of the disposition instrument, the Disposition Committee developed a statement of dispositions, which includes a definition of dispositions and a description of the dispositions measured throughout the program. The statement of dispositions is included in the teacher candidate's electronic portfolio, which is given to the teacher candidate at the beginning of the program. The teacher candidates must read and electronically sign the statement of dispositions in their electronic portfolio. This ensures that each teacher candidate has read the dispositions and understands the expectations for the professional dispositions they will be

expected to demonstrate throughout the program.

The new statement of dispositions and disposition instrument will be implemented in the School of Education beginning in the fall of 2021. The implementation of the new disposition instrument will require the continuous monitoring and evaluation of the use of the instrument and the data collected. Because of the benchmark system, it will allow faculty and staff to gather data to monitor and measure the growth of teacher candidate's dispositions over time. This will allow for the continual improvement of both the teacher candidates and the programs in the School of Education. This will help to inform the work that faculty and staff do with their teacher candidates during their coursework and clinical experiences. Finally, the data on professional dispositions may be used to identify annual goals for the improvement of essential teacher dispositions in each program in the annual assessment reports submitted to the university and the state department of education.

5. Discussion

This article describes the process for developing and validating a pre-service educator disposition tool designed and implemented by members of the School of Education at a midsize public midwestern university. Based on the feedback from a CAEP review, the purpose of this project was to develop a professional disposition instrument with content validity, which was lacking for the previous disposition form. In reflecting on our work, the committee identified four key attributes that enhanced the process for the development and validation of a professional disposition instrument:

- 1) A collaborative group of professionals with multidisciplinary representation;
- 2) A clear and intentional purpose and process;
- 3) The use of both internal and external expert review;
- 4) The use of quantitative methods in selecting dispositions and validating the disposition instrument.

The Disposition Committee was intentionally formed at the beginning of the development process to represent the multi-disciplinary composition of the School of Education. This included a wide swath of faculty and staff across all undergraduate educator preparation programs, as well as graduate pupil services programs including school counseling and school psychology. Customized or distance-based educational programs were also well represented on the committee.

The diverse perspectives became particularly meaningful as we started our collaborative work. In comparing our methods to other, similar projects in the published literature [1, 4, 18], the intentionality with which we included diverse representation on the Disposition Committee from across the School of Education stands out as unique, and is one component of our process that we identified as critical to effective outcomes. This became evident as we reviewed the InTASC list of standards and pare it down to a more concise list of items that were validated by consensus as the committee engaged in that process. This in turn, created a more inclusive

draft with which to survey our expert panels, and resulted in a final disposition evaluation tool that reflects the needs of our diverse programs.

The purpose and goals of the Dispositions Committee were made clear for each meeting and the overall process. The committee found that devoting time at the outset to develop our process and outline the steps involved to complete our task, in as much detail as possible, was time well spent. By establishing the process before implementing it, the committee was able to identify and anticipate our needs, which, upon completion of our work, may have avoided misfires. The process was effective and comprehensive, in large part to the work we did to develop and detail the process up front. By reviewing the professional literature, the Disposition Committee was able to utilize the knowledge and insights of other educational professionals and be intentional about the process used to develop and validate the instrument. At the conclusion of each meeting, the committee always discussed the next steps of the process.

One such example of developing the process, was what became our internal validation process. As we started our work and began to review the existing InTASC standards, it became apparent that one: we agreed the standards were a good place to start in identifying the items we would ultimately select, and two: there were way too many items to send to our experts for review. We knew we wanted a lean evaluation tool. The original list of 43 disposition items that align with the 10 core InTASC standards was too expansive. In addition, we were open-minded in considering the professional dispositions that may not be addressed by the InTASC dispositions.

In the early stages of our process, we developed and engaged in a consensus driven, internal review of these items, designed to identify the items most highly rated by committee members. Those items that received essential ratings from a majority of committee members were ultimately selected to include in our initial draft, to be sent to external experts for further review. Ultimately, 15 items were identified by the committee as having consensus appeal to all members. The process of validation by external experts confirmed the importance of these dispositions and provided strong evidence for the content validity of the instrument. In approaching the content validation process, other authors have employed methods that tend to include expert review from either a process of internal consensus building [2, 4], or from external sources such as field-based cooperating and/or student teachers [1, 18]. Our use of both a structured Delphi technique [23] with the experts on the committee, followed by review and feedback from an external panel of cooperating and area teachers, provided a particularly sound basis upon which to validate the appropriate items for our disposition tool.

In reflecting on the process and final product, the committee agreed that taking a quantitative approach to validating our disposition measure resulted in an effective final product. Compared to the previous tool, we are confident in knowing that our new disposition evaluation tool is valid beyond “what feels right”, having been confirmed as essential by a

multi-disciplinary group of external experts. From here we believe, we have a tool that will be relevant into the future, and will serve students, faculty, staff, and our community partners well.

There were two primary limitations to the process used by the committee. First, the internal review process could have been more systematic in documenting the results. We did identify early in the process that paring down the longer InTASC list, once we identified that as our primary source, would be of benefit before sending it to experts for review. However, the process we ultimately used to do that work, while quantitative in nature, was not documented as thoroughly or formally as it could have been done.

Finally, following our analysis and validation of the experts recruited to review the disposition items, we would recommend the use of fewer experts in retrospect. At the outset we believed “the more experts the better”, but in completing our statistical analysis using Lawshe’s CVR model [21], it is much more commonplace to observe 10 to 20 experts. Published guidance, including tables that report how many experts are required to rate an item as essential in order to validate it, did not go as high as 69 experts, requiring further calculations to establish critical thresholds to validate each item.

6. Conclusion

The development and validation of a new disposition evaluation instrument described in this article resulted in an improved assessment tool, and one that better represents and reflects the diverse array of programs and professionals in the School of Education. What started as a task that felt like somewhat obligatory service, ended up as a meaningful process that offered lessons in collaboration and evidence-based practice. Feedback from our experts only further cemented the importance of instilling essential professional dispositions for educators throughout their programs and the commitment and dedication to teach and model these practices as teacher educators. The process was enhanced by including representatives from undergraduate, graduate, elementary, secondary, and pupil service programs.

The most noteworthy characteristic of the committee that led to the successful development and valuation of a professional disposition instrument included was the diversity of input from different fields of study, who shared different experiences and perspectives, and the ability of the committee to reach a consensus through robust discussion. The committee was able to identify universal aspects to professional dispositions for educational practice, essential to all practitioners. The next steps for the implementation of the professional disposition instrument will involve continual data collection and analysis to evaluate our revised tool, which will assist with our use of assessment data for the continuous improvement of the teacher candidates and programs in the School of Education. The final product that resulted from this development process was not simply an update of the previous tool, but an authentic improvement and value added to our

comprehensive mission to prepare educators for successful careers in today's schools.

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