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# A Mixed-Methods Study Assessing Special Education Preservice Candidates' Preparedness for Their First Year of Teaching

**Beverly A. Tillman**

The University of Dayton

**Stephen B. Richards**

The University of Dayton

**Catherine Lawless Frank**

The University of Dayton

This study employed a Likert-type survey, *Praxis/Pathwise* written observations, as well as guided and open-ended reflections to assess the perceptions of preparedness for the first year of teaching for special education student teaching candidates. Cooperating teachers completed the survey and *Praxis/Pathwise* observations. University supervisors completed *Praxis/Pathwise* observations and responded to and analyzed guided and open-ended reflections. The survey instrument was based on the research literature and included responsibilities typically required of special educators (e.g., completing paperwork, planning, assessment, etc.). Results indicated general congruence among the three data sources, but also indicated that two cooperating teachers were reluctant to provide negative feedback, indicating to university supervisors a need to provide guidance and assurance of the value of providing less positive assessments of their student teachers' preparedness. This ongoing research study supports efforts toward accreditation and program improvement. The methods may be generalized to other programs, even when the actual data collection instruments may differ.

**Keywords:** *cooperating teachers, first-year teachers, mixed-methods design, Pathwise, preservice candidates, student teachers, special education*

## Introduction

The No Child Left Behind Act of 2001 and the Individuals with Disabilities Education Act of 2004 mandate that teacher education programs prepare highly qualified teachers for PreK–12 schools. Special education teachers must be prepared to teach a wide range of students (e.g., K–12, mild to moderate learning needs) in a variety of instructional situations (e.g., inclusive classrooms, special education classrooms, or a combination of both) and collaborate with parents, colleagues, and others on behalf of their students. At a time when the demand for special educators has increased, the attrition rate of first-year special education teachers has also increased (Boyer & Gillespie, 2000; Busch, Pederson, Espin, & Weissenburger, 2001; Mastropieri, 2001).

The literature cites issues and concerns first-year special education teachers encounter (Mastropieri, 2001). While some of these concerns parallel those of beginning general education teachers, special

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Please address queries to: Beverly A. Tillman, Ph.D., The University of Dayton, Department of Teacher Education, 300 College Park, Dayton, OH 45469-0525. Email: [Beverly.Tillman@notes.udayton.edu](mailto:Beverly.Tillman@notes.udayton.edu)

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education teachers also experience unique challenges and responsibilities that the Individuals with Disabilities Education Act brings and the specific needs of special populations necessitates (Boyer & Gillespie, 2000). For example, while many beginning teachers cite student behavior as a concern, intervention specialists have the additional responsibilities of implementing functional behavior analyses and developing and monitoring behavior intervention plans. These processes generate additional paperwork, another first-year teacher concern.

Studies have reported anecdotal and survey data from beginning special education teachers about their concerns and the types of induction and support programs they need (Busch, Pederson, Espin, & Weissenburger, 2001; Carter & Scruggs, 2001; Conderman & Stephens, 2000; Schlichte, Yessl, & Merbler, 2005; Wasburn-Moses, 2009; Whitaker, 2000). Concerns identified have included (a) discipline/behavior management, (b) diverse student characteristics, (c) large classes, (d) individualized educational program (IEP) development and implementation, (e) conducting of IEP meetings, (f) multiple formal assessment demands, (g) excessive paperwork, (h) parent communication, (i) work with paraprofessionals, (j) knowledge of the curriculum, (k) obtaining of adequate materials and resources, (l) time management, (m) perceptions of intervention specialists as unequal to general educators, (n) system information (e.g., written and unwritten rules and procedures, vague roles and responsibilities), (o) job assignment and teacher preparation mismatch, and (p) need for emotional support (mentoring). Clearly, the list of concerns is a considerable one, and so are the challenges in educating preservice candidates and assessing their preparation.

Beginning special education teachers' concerns are sometimes linked to aspects of their preservice preparation they view as inadequate (Mastropieri, 2001). Anecdotal and survey data gathered during matriculation, at program completion, and in the entry year of teaching can provide valuable information for use in assessment and program improvement for such professional preparation programs. Teacher educators have a responsibility to engage in thoughtful program evaluation in order to identify aspects of their preparation programs that may help or hinder novice teachers' transition to full-time teaching and may ultimately impact the retention of highly qualified special educators.

One challenge to achieving the goal of highly qualified teachers is a lack of agreement about the specific attributes of highly qualified teachers. The difficulty of defining and assessing teacher quality has been documented in the education literature (Berliner, 2005; Cochran-Smith & Fries, 2005; Fenstermacher & Richardson, 2005). Blanton, Sindelar, and Correa (2006) conducted a comprehensive analysis of five traditional measures of beginning teacher quality:

1. Process/product measures
2. Teacher evaluation checklists
3. Professional standards
4. Large-scale surveys
5. Commercially available observations (e.g., *Praxis*).

In making a case for mixed methodologies linked to student outcomes, they concluded, "Thus, future research in our field must focus on the validation of measures of teacher quality. Only then will researchers have the tools they need to link preparation variables to credible measures of teacher quality" (p. 125). This was a persistent theme in teacher education literature.

The capstone experience for preservice candidates is student teaching, which has traditionally been viewed as a major benchmark on the continuum of teacher development. Successful completion of student teaching is required for licensure and induction into the profession. Therefore, it is important to include assessment of student teaching when examining issues of teacher quality.

Limback and Mansfield (2002) described student teacher assessment as a complex process with multiple purposes that include (1) screening/formative processes to improve individual student teaching performance, (2) data analysis for program improvement, and (3) accreditation reports for external review. A comprehensive approach to student teacher assessment necessitates the use of a variety of tools and strategies grounded in research about teaching and that include input from cooperating teachers (i.e., the K–12 teachers who directly supervised the preservice student teachers), university liaisons, and the student teachers themselves. While certain assessment instruments may be obtained from published sources, others are developed by teacher education faculty with specific programmatic goals in mind.

Certain researchers, discussed here, have examined patterns of responses from cooperating teachers and student teachers on various assessments and survey instruments. Results ranged from positive feedback by cooperating teachers on student teacher assessments and surveys to very high assessments of student teaching performance on self-reported instruments. Low ratings appeared either to have been an anomaly or to have occurred primarily in extreme instances.

Brucklacher (1998) described a 5-year study in which 465 evaluations of student teachers by cooperating teachers were very high (an overall mean score of 3.63 on a 0 to 4 point scale). Cooperating teachers' comments regarding their student teachers were positive and led Brucklacher to speculate on the effects of factors such as rater bias, instrumentation, and/or the culture of the program on participants' responses. Cooperating teachers may believe that teacher education faculty might perceive lower ratings or negative feedback regarding student teachers as a reflection of the cooperating teachers' competence. They might consider that lower ratings or negative feedback may be viewed as a criticism of the teacher preparation program. The culture of the teacher education program may explicitly or implicitly convey an expectation of high ratings for student teachers. These phenomena warrant further research.

Sinclair, Dowson, and Thistleton-Martin (2006) examined contributing factors relative to cooperating teachers' willingness or reluctance to mentor practicum students. They found that altruism was a major factor and that cooperating teachers who accepted practicum students were committed to mentoring the next generation of teachers. Teachers also viewed mentoring a student teacher as contributing to their own professional development. Cooperating teachers who declined to accept a student teacher cited factors such as negative experiences with prior student teachers, lack of available time to adequately mentor student teachers, unclear guidelines from university-based teacher education programs, and lack of compensation. When asked what would encourage them to serve as cooperating teachers in the future, they reported release time for mentoring, better support and guidelines from universities, and better compensation.

Student teachers' performance ratings by cooperating teachers are critical in evaluating individual candidates' performance. Self-ratings by candidates are also beneficial in assessing their perceptions about their performance and their preparation. Ingersoll and Kinman (2002) developed and administered a Likert-type survey to preservice and induction-year teachers to assess self-perceived levels of competency relative to the Interstate New Teacher Assessment and Support Consortium principles. Candidates were also asked the likelihood that they would pursue teaching positions upon completion of the program. The authors found that teacher candidates rated themselves positively on the Likert scale items but provided lower ratings if they were less likely to actually seek a teaching position upon graduation. Preservice teachers' comments on the optional, open-ended portion of the survey reflected perceived limitations or weaknesses in their preparation program. The authors stated that the qualitative data (self-volunteered comments) along with the

quantitative data from the Likert scale provided important information for program improvement, with the caveat that perceptions and reality are not necessarily the same.

The American Educational Research Association (2005) called for extensive mixed-methods studies about teacher quality that examine interactions among the complex variables that impact student learning outcomes. The organization also called upon educational researchers to more fully represent the voices of various stakeholders (e.g., cooperating teachers and prospective teachers) in future research rather than rely too heavily on the voices and interpretations of teacher education faculty alone.

In response, we conducted this study. Our purpose was twofold. First, we assessed the preparation of special education intervention specialist teacher candidates in a K–12 mild/moderate disabilities 4-year undergraduate program with the use of a mixed-methods design. We believed the method used might be generalized to other teacher education programs, even when the specific data collection instruments differed. Second, we wanted to identify potential areas for program improvement. Both purposes allowed us to reflect upon our teacher education program within the context of national and state accreditation guidelines.

## **Method**

In relation to our first purpose, we developed a mixed-methods study to obtain data that would help us better understand the preparation of teacher candidates and to provide readers with a methodology that can be generalized even when other data collection instruments might be used. Our second purpose involved analyses of the data to determine areas for program improvement. The areas for program improvement included curriculum/instruction and data collection/analysis. Again, the methods used might be generalized to other programs, even when the instrumentation itself differs. Creswell (2008) noted that mixed methods, using quantitative and qualitative data in combination, may provide a better understanding of the research problem than would either type of data used by itself. Triangulation of data, as used in this study, tends to strengthen research findings (Creswell, 2008). While we present our specific survey instrument, our teacher evaluation instrument, and our method for obtaining preservice candidate reflections, others might easily modify these or substitute their specific data collection instruments using this same process.

### **Instrumentation**

We developed a survey instrument based on our review of the literature about areas of concern for first-year special educators. We included both Likert-type and open-ended items designed to allow special education preservice candidates to assess their preparedness for transitioning to full-time teaching. The themes probed in the survey instrument and identified for analyzing reflections were gleaned from the research literature (the themes and survey instrument are included as Appendices A and B, respectively). There were 18 Likert-type items that also included an option to make additional comments. In addition, there were two open-ended items that asked participants to comment about experiences within student teaching and/or outside of the formal university program (i.e., classes) that enhanced their preparation. The surveys for the special education candidates and cooperating teachers differed slightly in wording to reflect the respective roles of each group. A small group of cooperating teachers, graduates of the program, and university faculty reviewed the instrument to identify any potential questions that could be confusing or unclear; minor adjustments in the wording of items were made as needed. We administered the survey to 24 undergraduate intervention specialist candidates and their 24 cooperating teachers at the conclusion of the student teaching semester. We received feedback from cooperating teachers and student teachers indicating

that confusing or unclear wording had been eliminated. This also suggested general agreement that the instrument addressed areas of concern for beginning special education teachers. Therefore, the instrument was again used in the following academic year, which is the focus of this article.

## Participants

Participants included 20 intervention specialist candidates in their student teaching semester, their 20 cooperating teachers, and four university faculty members. All candidates were traditional undergraduates and European-American. Cooperating teachers, with one exception, had previously supervised student teachers from the same university program; all were licensed intervention specialists, all had a minimum of 3 years of teaching experience, and all were European-American. The public schools in which the student teachers were placed were racially and socioeconomically diverse and included some urban but predominately suburban school districts in the Midwest. The participating university faculty members were full-time faculty (three tenured and one clinical faculty member) who had terminal degrees and had previously supervised special education candidates. Our sample was most representative of the intervention specialist candidates in our private religious university rather than the larger population of candidates in both public and private colleges and universities. The methods described here, however, could be applicable to any university program that prepares special education preservice candidates.

## Data Collection

In an effort to improve knowledge about the preparation of candidates and to facilitate program improvement, we used three data sources. First, all candidates were evaluated with a form of the *Praxis/Pathwise* on five separate occasions (see Appendix C that includes the criteria included on the *Praxis/Pathwise* evaluation form). *Praxis III* is a nationally validated framework for performance-based assessment of beginning teachers (Educational Testing Service, 1995, 2001; Danielson & Dwyer, 1995). It measures 19 criteria related to planning, management, instruction, and professionalism. *Pathwise* is the name associated with use of the *Praxis III* framework in a formative manner to guide the development of preservice teachers. The framework has also been adapted to guide the professional practice of teachers beyond the entry years of teaching (Danielson, 1996, 2007). The *Praxis/Pathwise* framework is comparable to other recognized teacher performance assessments such as the National Board for Professional Teaching Standards, the Interstate New Teacher Assessment and Support Consortium, and the National Association of State Directors of Teacher Education and Certification (Educational Testing Service, 1995). Our evaluation form was based on effective instruction standards required by the state of Ohio as outlined in the *Praxis III* framework. We included data from the final summative evaluation in this study. The cooperating teacher and a university faculty member completed the final summative evaluation. The qualitative data were coded into three themes: *Not Met* (candidate had the opportunity to meet the criteria but did not), *Expectations Met* (candidate met the criteria at the level expected of a student teacher), and *Expectations Exceeded* (candidate met the criteria at a higher level of competence than expected). While there were guidelines provided for evaluating criteria, there was subjectivity related to the specific cooperating teacher, the classroom situation, and the public school students taught, in addition to other possible variables. It should be noted that while this instrument is used at our institution, other instruments used by programs in Ohio or other states may be equally effective and could be used.

Second, candidates rated themselves with the survey instrument developed in the previous academic year. The self-ratings occurred at a final student teaching seminar after the summative evaluation was completed. We encouraged candidates to honestly rate themselves and assured them that a

graduate student would enter data from individual surveys into a Microsoft Excel database and pair student teachers' and cooperating teachers' surveys. Therefore, we did not view their individual surveys until after their graduations. We compiled open-ended item responses into Microsoft Word files.

We mailed surveys to cooperating teachers who returned them in postage-paid envelopes. Similar to the candidates, we informed cooperating teachers that their survey data would be paired with their respective student teachers' data in an Excel database. Pairings were done by assigning an anonymous participant number rather than by name. We compiled open-ended item responses in a Word file and also paired them to the corresponding student teacher.

Third, we obtained weekly reflections, which were qualitative in nature, from candidates. Throughout the student teaching semester, candidates submitted these weekly reflections to their respective university faculty. Weekly reflections were open-ended or guided alternatively. Guided reflections indicated an overall topic from areas identified in the literature and survey instrument items. The university faculty identified these thematic areas including discipline, curriculum/instruction, and self-management. The respective supervising university faculty member read and provided feedback to candidates about their reflections. We compiled responses to reflections in Word documents for each candidate.

At the conclusion of the semester, university faculty analyzed and compared the results from the three data sources to determine any congruence among the sources. We wanted to know whether candidates were prepared adequately for their first-year teaching experience and if there were areas of strength and/or needs for program improvement in candidates' preparation. We selected these mixed methods of quantitative (survey instrument) and qualitative (reflections; *Praxis/Pathwise* observations) data collection because they provided the faculty with multiple sources of data for program improvement decision-making. These methods also provided faculty with insight about how to continue and refine data collection methods to ultimately determine how best to evaluate the effectiveness of candidates in improving learning outcomes in K–12 school students

## Data Analyses

We analyzed data in four ways. First, we analyzed survey results to determine if differences existed between candidates' perceptions of their preparedness and cooperating teachers' perceptions of the candidates' preparation. These comparisons included reviewing both quantitative data on all items and comments made on each item and the two open-ended items. We reviewed the comments for areas of strength, need, and improvement. Specifically, cooperating teachers' and candidates' paired ratings were analyzed to determine on which items, if any, one participant rated performance as prepared and the other participant rated performance as unprepared. Similarly, we compared cooperating teachers' and candidates' responses to open-ended items in relation to any items on which the paired participants disagreed. Our intent was to elicit any enriching information concerning why the paired participants disagreed. We calculated group means for cooperating teachers and candidates to determine overall ratings of preparation. Similarly, faculty reviewed comments from all participants for the emergence of themes regarding preparation.

Second, we compiled and reviewed the weekly open-ended and guided reflections to identify candidates' reports of strengths, needs, and areas for program improvement if mentioned. The faculty also identified responses indicating concerns about the topics included in guided reflections or concerns that emerged in open-ended reflections. We defined concerns as expressions of worry or anxiety.

Third, the faculty reviewed final *Praxis/Pathwise* evaluations to determine areas in which candidates did not meet, met, or exceeded expectations. We then calculated percentages of candidates in each category for all of the 19 criteria. In cases where survey data indicated disagreement between paired participants as to preparation, we reviewed summative evaluation data to determine whether the candidate was rated as having “not met” expectations on any criteria.

Finally, we examined the data sources in combination for each candidate to determine if there was general congruence among the data sources concerning overall preparation as well as in specific areas included on the survey instrument, the themes included in the guided and open-ended reflections, and the *Praxis/Pathwise* evaluations. This allowed university faculty to determine (a) reliability or trustworthiness among the data sources, (b) areas for program improvement, (c) strategies to revise and improve data collection, and/or (d) development of new and better methods of assessing candidates’ preparedness for their first year of teaching.

## Results

The purpose of this study was twofold. First, we wanted to assess the preparation of special education teacher candidates in a K–12 mild/moderate disabilities 4-year undergraduate program through the use of mixed methods of data collection and analyses. Second, we wanted to identify potential areas for program improvement. To those ends, we determined candidates were prepared for their first year of teaching. Also, we discovered that in two pairings of cooperating teachers and candidates, a lack of congruence among data sources existed. In turn, we determined areas for program improvement related to curriculum/instruction and data collection/analysis.

Analyses concerning the overall preparedness of our candidates revealed important conclusions and considerations regarding our first purpose. First, survey instrument results indicated general congruence among candidates and their cooperating teachers (overall means across the 18 Likert-type items were 4.26 and 4.12, respectively). Only 18 cooperating teacher surveys were returned, while all 20 candidate surveys were used (see Appendix B for item means for each group). Overall, both groups rated the candidates as prepared in each of the areas addressed on the instrument. There were no items for which the candidates’ and cooperating teachers’ ratings did not fall above 3.0 (i.e., overall agreement with the item). Comments on the various items and direct comparison of results between specific candidates and their cooperating teachers did reveal that there was not congruence for each pair.

We identified differences of at least 2 points between candidate and cooperating teacher ratings on individual survey items for several pairs of cooperating teachers and their respective candidates. A 2-or-greater point difference would indicate that (a) one of the pair rated “not sure,” while the other strongly agreed or strongly disagreed with the item, or (b) the candidate’s and cooperating teacher’s rating fell on opposite sides of “not sure,” meaning one agreed or strongly agreed with the item, while the other disagreed or strongly disagreed with the item. This outcome occurred on 21 individual item comparisons across all pairs of cooperating teachers and their respective candidates. More importantly, it occurred on 11 items with one pair and five items on a second pair, and accounted for approximately 75% of all such disagreements. These results indicated that for these two pairs of candidates and cooperating teachers, there was substantial difference in how each rated the preparedness of the candidate on those specific items. With both pairs, the noncongruence on each of the items resulted from the cooperating teacher disagreeing or strongly disagreeing that the candidate was prepared in that area while the candidate agreed or strongly agreed that he/she was prepared. Interestingly, with both of these pairs, comments from student teachers were limited to

the open-ended items only and did not provide any elaboration about their own individual item ratings for which disagreement occurred. The cooperating teachers' comments included both criticism of the student teacher, as well as some praise across all comments. These comments suggested a need for further in-service on rating candidates by cooperating teachers may exist given the overall results of the *Praxis/Pathwise* final evaluations.

*Praxis/Pathwise* observations indicated overall preparedness was good with zero "not met" ratings for any candidates on any item. Overall results indicated 8 of the 19 criteria in which the majority of candidates received a rating of "expectations met" and "expectations exceeded" for the majority of candidates on the other 11 criteria. These data suggested that all candidates were prepared on each of the 19 criteria. As noted, however, the survey results for two pairs of participants indicated disagreement on preparedness on 11 items for one pair and 5 items for the other pair. While there is not direct one-to-one correspondence on the survey items and the *Praxis/Pathwise* evaluation form, the lack of congruence between the two sources of data for these two pairs of participants suggests a need for improvement in instrumentation and data collection.

Reflections indicated that candidates generally felt prepared, but there were specific areas of concern including but not limited to completing paperwork (IEPs), working with others (effectively collaborating with experienced teachers, paraprofessionals, and families), and competently disciplining public school students. Candidates reflected about discipline as being their most challenging area overall. Self-management and balancing the demands of teaching with life outside of school was another area of concern candidates expressed. This provided faculty with areas for discussion and focus prior to and during student teaching, and the need to identify strategies for managing discipline and self among candidates.

Overall, results indicated the candidates' preparedness for their first year of teaching. Additionally, the results of the study revealed areas for program improvement, specifically curriculum/instruction and instrumentation/data collection. We elaborate on these two purposes in the following discussion.

## Discussion

First, we must acknowledge the limitations of our study. As we noted in our discussion of participants, the sample was limited in number, in the diversity of candidates and cooperating teachers, and geographically. External validity or transferability of specific results is therefore limited; however, our procedures for collecting and analyzing data used mixed methods that may be generalized to other teacher education programs. Also, the survey instrument has been used only twice, and based on a review of the literature, additional studies are required to establish its validity, particularly given the self-reporting nature of the data for candidates. Again, readers in other teacher education programs might also modify or create their own survey instruments to address the specific concerns related to their licensure programs and candidates. Trained cooperating teachers and faculty conducted the *Praxis/Pathwise* evaluation observations, while the final evaluation used in this study was done collaboratively. This type of evaluation, however, relies on expert judgment and observation rather than purely objective data. Finally, reflections and self-reported information may or may not truly indicate the candidates' thoughts, actions, beliefs, and values. Perceptions are important though, especially when they differ between cooperating teachers and their corresponding candidates regarding preparation for the first year of teaching. Having acknowledged these limitations, we consider this study's findings valuable information for our two purposes.



## Overall Effectiveness of the Program and Data Collection Methods

Our mixed-methods design provided valuable information about the candidates' overall preparedness. There was general confirmation of the effectiveness of the teacher education program. Importantly, these data did serve to identify two pairs of candidates and cooperating teachers who disagreed about certain survey items (11 items for one pair and 5 items for another pair). The disagreements concerned preparedness in comparison to the overall positive nature of the final *Praxis/Pathwise* evaluations and in weekly reflections. This outcome could indicate that the self-reporting nature of the data for certain candidates may not always reflect reality when compared to cooperating teachers' perceptions. Identifying such discrepancies can be important in grounding candidates in self-analysis of their own performance, improving cooperating teachers' ratings of candidates, and/or developing data collection instruments for a program that are sensitive to such perception differences.

Comments on the survey items across all participants were illuminating in that they provided richer information on the actual item ratings. For example, cooperating teachers' and candidates' comments indicated that a number of candidates needed additional practice in conducting IEP meetings and communicating with parents. For the two pairs mentioned above, the cooperating teachers' comments also better explained their ratings on items that were noncongruent from the candidates' ratings. Across all surveys, the comments were helpful in confirming areas of strength and need for candidates.

The *Praxis/Pathwise* evaluations served as a collaborative tool for rating the preparedness of candidates. They provided an overall indicator about the effectiveness of the program in teacher candidate preparation; however, they also indicated that ratings on these evaluations may be more positive than cooperating teachers may actually believe about candidate preparation, at least in reference to two pairs the survey results indicated. This could have been because the final evaluations are the basis for providing student teachers a final grade, while the survey was presented to cooperating teachers as an instrument for program improvement purposes. That is, the two cooperating teachers alluded to may have been reticent to take actions that could have affected the student teaching grade, but felt free to be more expressive when the data were not "high stakes." This would suggest that both types of data are needed.

Reflections provided useful information during student teaching for faculty about emergent candidates' concerns and overall areas of concern across all candidates about discipline and self-management. These data could also be compared with survey comments and *Praxis/Pathwise* evaluation data to determine if they represented areas of ineffectiveness not evident in this study, or suggest areas for increased focus in educating candidates in subsequent years as indicated in the study's results. Reflections also provided faculty with insight into candidates' opinions about how their student teaching was progressing and insight into issues that might have arisen (e.g., difficulty in working with a paraprofessional) that could require intervention from the supervising faculty member. It would appear, therefore, that mixed methods using triangulation of data may be more useful in enriching, elaborating on, and analyzing candidate preparation and program improvement efforts.

## Areas for Program Improvement

The mixed-methods data provided us with several areas for program improvement. First, the reluctance of certain cooperating teachers to share concerns regarding the performance of student teachers on high-stakes evaluations was consistent with our literature review. We need to ensure

that cooperating teachers are empowered to express critical results on *Praxis/Pathwise* evaluations. Instituting professional development sessions in which faculty and cooperating teachers discuss general aspects of candidate assessment and problematic situations that might occur during student teaching would be beneficial. These sessions would provide opportunities for faculty to encourage cooperating teachers to rate candidates in ways that accurately reflect the perceptions of cooperating teachers about the candidates' preparedness. Conversations of this nature could foster stronger partnerships that would strengthen the teacher preparation program and candidate support system.

Second, the data identified the following eight *Praxis/Pathwise* criteria that could merit additional attention prior to student teaching: A2 – Articulating clear learning goals for the lesson that are appropriate for the students; A3 – Demonstrating an understanding of the connections between the content that was learned previously, the current content, and the content that remains to be learned in the future; A5 – Creating or selecting evaluation strategies that are appropriate for the students and that are aligned with the goals of the lesson; B3 – Communicating challenging learning expectations to each student; B4 – Establishing and maintaining consistent standards of classroom behavior; B5 – Making the physical environment as safe and conducive to learning as possible; D1 – Reflecting on the extent to which the learning goals were met; and D4 – Communicating with parents or guardians about student learning. We also recognize the need to ensure that all candidates have opportunities to practice and conduct IEP meetings and to conference with families during student teaching.

Third, the study revealed the need to encourage candidates' honest and objective completion of the survey items. The two cooperating teacher/student teacher pairings in which discrepancies occurred are relevant here. The candidates rated themselves high in all areas, including areas where concerns existed. As reported in the literature, low self-ratings are rare among teacher candidates. Critical feedback tends to be aimed more at perceived program weaknesses than personal areas for improvement. Both types of feedback are helpful in designing strong induction and support programs for beginning teachers.

Fourth, candidates' survey responses and guided reflections revealed concerns about managing the demands of teaching while maintaining balance in their lives. Our faculty will explore ways to provide strategies prior to and during student teaching that focus on self-management. Methods courses, student teaching seminars, and interactions between university supervisors, student teachers, and cooperating teachers are all avenues for promoting a healthy work/life balance.

### **Areas for Improving Data Collection**

The mixed-methods data provided us with areas for improving data collection. While spontaneous reflections are informative, guided reflections may be useful for identifying areas where candidates need assistance. Faculty will be able to focus the candidates' reflections on areas identified in the literature and data obtained from previous candidates.

Finally, we identified additional areas for data collection that focus on the transition from program completion into the induction year(s). The use of *Praxis II* testing data can confirm the preparedness of candidates. A follow-up survey of candidates during their first year of teaching could be compared with the results of the survey conducted at the end of student teaching to ascertain any changes in self-perceptions of preparedness. Employer survey data could be used in a manner similar to that of cooperating teachers' data from student teaching to determine if employers rate the effectiveness of the first-year teachers similarly to how the first-year teachers rate themselves. Comparison of *Praxis III* evaluation results obtained during the first year of teaching (as available depending on the state in which the candidate actually teaches) could be compared with final *Praxis/Pathwise*

evaluations from the student teaching semester. Perhaps most importantly, we must begin to develop additional data collection methods by which to determine the impact of candidates on the learning of K–12 students.

University faculty are required under the No Child Left Behind Act to assess candidates' preparedness as highly qualified teachers. Faculty are also required to maintain an adequate database for tracking and evaluating candidates' progress. Finally, faculty will be required in the future to assess how candidates positively impact K–12 students' learning. The results of this study can inform program faculty at other universities which mixed methods might be employed to accomplish these three tasks. Professional organizations (e.g., the American Educational Research Association) have called for mixed-methods studies of teacher quality to discern interactions among the complex variables that impact student learning outcomes. Mixed-methods approaches are appropriate as accrediting agencies (e.g., the National Council for Accreditation of Teacher Education) require data from multiple sources and in multiple forms.

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## Appendix A

### Themes Identified in the Literature

1. Disciplining in the classroom
2. Differentiating instruction
3. Writing IEPs
4. Documenting student progress
5. Conducting IEP meetings
6. Completing paperwork
7. Working with families
8. Working with paraprofessionals
9. Compensating for lack of materials
10. Asking for support
11. Prioritizing demands
12. Working with colleagues
13. Advocating for students
14. Managing curriculum
15. Managing student grouping
16. Using assessment techniques
17. Adjusting to change
18. Knowing type of teaching position sought
19. Identifying helpful experiences at the university—open-ended
20. Identifying helpful experiences outside the university—open-ended

## Appendix B

### Candidate Survey

Name: \_\_\_\_\_

Circle the answer(s) that best fits for your student teaching experience:

How would you classify the district in which you did your student teaching?

Urban	Suburban	Rural
11%	85%	4%

Which grade levels did you work with?

Elementary	Middle School	High School
70%	15%	15%

How would you classify your teaching (circle more than one if needed)?\*

Self Contained	Inclusion	Resource Room
30%	52%	70%

*\*(Percentages exceed 100% because students could select more than 1 response)*

Please indicate your agreement/disagreement with for each item (1–18):

	1	2	3	4	5
	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1.	I know how to establish and maintain classroom discipline.				
	ST*: 4.148				
	CT*: 3.958				
2.	I know how to differentiate instruction to meet the needs of students.				
	ST: 4.407				
	CT: 4.5				
3.	I know how to write an IEP.				
	ST: 4.444				
	CT: 4.208				
4.	I know how to document student progress.				
	ST: 4.481				
	CT: 4.292				
5.	I have the knowledge and confidence to conduct an IEP meeting.				
	ST: 3.852				
	CT: 3.875				
6.	I know how to complete the paperwork, other than IEPs, associated with special education.				
	ST: 3.815				
	CT: 4				

7. I know how to develop a working relationship with the parents/guardians of students.  
ST: 4.481  
CT: 4.417
8. I know how to work effectively with paraprofessionals.  
ST: 4.444  
CT: 4.292
9. I know how to compensate when I have insufficient materials and supplies.  
ST: 4.185  
CT: 4.375
10. I know how to ask for help and support when needed (e.g., seek a mentor).  
ST: 4.3333  
CT: 4.4583
11. I know how to prioritize when I feel I have too much work and too little time.  
ST: 4  
CT: 4.1667
12. I know how to develop working relationships with professional colleagues.  
ST: 4.4815  
CT: 4.5833
13. I know how to advocate for students.  
ST: 4.2963  
CT: 4.25
14. I know how to adapt and apply curricula (e.g., content standards, social skills, study skills) to meet the needs of students.  
ST: 4.4444  
CT: 4.375
15. I know how to manage different sized groups of students.  
ST: 4.1481  
CT: 4.125
16. I know how to administer and interpret multiple assessment techniques.  
ST: 4.1481  
CT: 3.9583
17. I know how to adjust to changes in or additions to my teaching responsibilities.  
ST: 4.2593  
CT: 4.4583
18. I know what position type (e.g., grade level, resource vs. inclusion) I would like to obtain.  
ST: 4.0385  
CT: 4.125

STs - What personal or university experiences elevated your level of confidence and knowledge for your first year of teaching?

CTs - Were there any professional experiences of which you were aware that elevated the level of confidence and knowledge for your student teacher?

STs - Are there any other areas not included on this survey in which you believe you lack sufficient knowledge and confidence?

CTs - Are there any other areas not included on this survey in which you believe your student teacher was lacking sufficient knowledge and confidence?

*Note:* CT = cooperating teacher; ST = student teacher.



## Appendix C

### **Praxis/Pathwise Criteria**

- A1 – Familiar with relevant aspects of the **students' background** knowledge, experiences and skills
- A2 – Formulates clear **learning goals/objectives** for the lesson\*
- A3 – Understands the **connections** between previous, current, and future content \*
- A4 – Creates or selects teaching **methods**, learning **activities**, instructional materials, or other **resources** that are appropriate for the students and aligned with the learning goals.
- A5 – Creates or selects appropriate **evaluation** strategies\*
  
- B1 – Creates a climate that promotes **fairness**
- B2 – Establishes and maintains appropriate **rapport** with students
- B3 – Communicates challenging and appropriate learning **expectations** to each student\*
- B4 – Establishes and maintains consistent standards of classroom **behavior**\*
- B5 – Makes the **physical environment** as safe and conducive to learning as possible\*
  
- C1 – Makes learning **goals** and instructional **procedures** clear to students
- C2 – Makes the **content** of the lesson **comprehensible** to students
- C3 – Encourages students to extend their **thinking**
- C4 – **Monitors** students' understanding of the content through a variety of means
- C5 – Uses **instructional time** effectively
  
- D1 – **Reflects** on the extent to which the learning goals were met
- D2 – Demonstrates a **sense of efficacy**, assuming responsibility for student learning\*
- D3 – Builds **professional relationships** with colleagues
- D4 – **Communicates with parents or guardians** about student learning\*

*Note:* \* Indicates a criterion where the majority of candidates were rated as *Expectations Met*.

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