Is a "Critical Mass" of Teacher Candidates Needed in a Professional Development School to Achieve a Quality Student Teaching Experience?

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ABSTRACT: Though the Professional Development School (PDS) model assumes that student teachers will be placed in cohorts as opposed to singletons during their student teaching experience in PDSs, little research is available to validate what the 'magic' number in those cohorts should be. In the state where the researchers' Institute for Higher Education resides, it is *required* that at least 5 interns be placed in the same PDS at the *same time* during their student teaching experience. If five is the critical mass needed to secure a quality student teaching experience, the researchers questioned what the impact might be on student teachers who are placed in cohorts of fewer than five. To answer this question, the researchers surveyed teacher candidates placed in various cohort sizes at PDSs over a 4-year period to determine (a) the extent to which the number of student teachers placed simultaneously in a PDS affects the quality of the experience for the student teacher, and (b) the student teacher's perceived ability to affect student achievement. Using the *Standards for Maryland Professional Development Schools* as a framework to identify characteristics that promote quality student teaching experiences and to develop the survey questions, the researchers found that regardless of cohort size, there were few significant differences in the interns' perceptions of the quality of their experiences or their perceived ability to address student achievement in the schools in which they were placed.

NAPDS Essentials Addressed: #2/A school–university culture committed to the preparation of future educators that embraces their active engagement in the school community; #4/A shared commitment to innovative and reflective practice by all participants; #7/A structure that allows all participants a forum for ongoing governance, reflection, and collaboration.

Professional Development Schools (PDSs) were adopted by many school-university partnerships in the 1980s as a way to improve both preservice teacher education and student achievement in K-12 public schools in the nation. It was during this time that the Maryland Higher Education Commission (MHEC) and the Maryland State Department of Education (MSDE) took steps to address their call for "dramatic improvements in teacher education" in both preservice teacher preparation and continued professional development for practicing teachers (Maryland Partnership for Teaching and Learning K-16, 2003, p. 1). Task forces and design groups were appointed to research and recommend a comprehensive strategy that would result in the perceived overhaul needed to improve teacher preparation and development in Maryland. Formally adopted by MHEC and endorsed by MSDE in 1995, Maryland's redesign for teacher education was created to guide reform efforts using a systematic approach to improving teaching and learning in schools, focusing on teacher preparation in the larger context of school improvement in a PDS model (Maryland Higher Education Commission, 1995). Soon thereafter, another design team was appointed to create a detailed plan and schedule for full implementation of the PDS model across the state. Maryland became the first, and remains the only, state in the country to mandate that higher education institutions in the state adopt and implement the PDS model for all teacher candidates. In addition to requiring that all teacher candidates complete an "extensive internship (student teaching experience) in a specifically designed Professional Development School" (Maryland Higher Education Commission, 1995, p. 2), it is mandated that teacher candidates be placed in cohorts of at least five during the semester of their student teaching placements.

Purpose

Because MSDE has the power to inflict punitive outcomes on any institute of higher education (IHE) in the state for failing to place at least five interns simultaneously in every PDS in any given semester, the researchers sought to understand the research-based significance of the number *5* as it related to the IHE's mandated responsibility to meet cohort size expectations. The purpose of this study was to determine the extent to which the number of teacher candidates placed simultaneously in a

PDS affects the quality of the student teaching experience for the teacher candidate and influences the teacher candidate's perceived ability to affect student achievement at the school(s) in which he/she is placed.

Definition of Terms

For the purposes of this study, the terms "student teacher," "teacher candidate," and "intern" will be used interchangeably to signify the role of the university student who participates in the full-time, 20-week, capstone student teaching experience at the end of his/her coursework to become a certified educator in the state of Maryland. The terms, "internship," "full-time internship experience," "clinical field experience," and "student teaching experience" will be used interchangeably to denote the 20-week extended timeframe the teacher candidate spends in the classroom working alongside a mentor teacher whereby the teacher candidate learns how to teach through a gradual release of responsibility on the part of the mentor teacher in the classroom to which he/she is assigned. The terms, "mentor teacher" and "cooperating teacher" will be used interchangeably to signify the individual to whom the student teacher is assigned during the full-time, 20-week student teaching experience.

Context

Notre Dame of Maryland University (NDMU) is a small, urban university that partners with 19 PDSs across four different public school systems. While NDMU offers a traditional undergraduate teacher certification program, the majority of its initial certification programs cater to students who already possess a Bachelor's degree outside of the field of education and are returning to higher education to obtain teaching certification. For this reason, the university allows teacher candidates to choose one of four distinct programs on the basis of each candidate's unique needs. Through creative scheduling and a flexible faculty and staff, NDMU is able to offer certification programs that meet the needs of traditional and nontraditional students while at the same time meeting and exceeding national and state standards for the accreditation of its programs. In addition, all teacher candidates are expected to complete their full-time, 20-week, student teaching experience across two different school placements that participate in a formal PDS partnership model.

Literature Review

Maryland State Department of Education Requirements for Professional Development Schools

NDMU, like every Maryland IHE, participates in a joint state, National Council for Accreditation of Teacher Education (NCATE) re-accreditation process every 5 to 7 years. As part of that process, the following tools are used to guide the implementation of PDS partnerships and/or to evaluate the quality of teacher preparation programs at each IHE: (a) the *Maryland Institutional Performance Criteria* based on the redesign for teacher education (Maryland State Department of Education, Program Approval and Assessment Branch, 2014); (b) the implementation manual for Professional Development Schools (Maryland Partnership for Teaching and Learning K-16, 2003); (c) the *Standards for Maryland Professional Development Schools* located within the implementation manual (Maryland Partnership for Teaching and Learning K–16, 2003. p. 40); and (d) *NCATE Unit Standards* (National Council for Accreditation of Teacher Education, 2008). To gain program approval and re-accreditation, IHEs are encouraged to use these tools to guide programmatic decision making and to frame self-studies for evaluating their current policies and practices related to teacher preparation. The three tools that are relevant to the purpose of this study, and the overarching question as to whether cohorts of five or more produce more effective results for teacher candidates and preK-12 students, are (a) *Maryland Institutional Performance Criteria*; (b) the PDS implementation manual; and (c) the *Standards for Maryland Professional Development Schools*.

Maryland's institutional performance criteria. Maryland's institutional criteria are based on the redesign for teacher education in Maryland and are used to evaluate and accredit all teacher preparation programs in the state. The redesign for teacher education was created as a systemic reform proposal to deal with the improvement of teaching and learning in Maryland's public schools. It focuses on teacher preparation related to both content knowledge and pedagogy, and how each are connected to school improvement efforts in individual public schools (Maryland Higher Education Commission, 1995). "The philosophical framework for the recommendations" contained in the redesign is founded on eight principles, followed by a recommended structure for guiding teacher candidates through the process of becoming teachers (Maryland Higher Education Commission, 1995, p. 9). Outlined in the redesign are six recommendations for IHEs to consider when designing and implementing teacher preparation programs. These recommendations specifically relate to (a) appropriate undergraduate preparation, (b) intern admission to schools of education, (c) extensive clinical internship experiences in PDSs, (d) monitoring and assessment processes, (e) the initial certification process, and (f) support systems for continued growth and development for new and experienced teachers. According to the redesign, implementation of the recommendations will result in "multiple models and approaches to preparing teachers" (Maryland Higher Education Commission, 1995, p. 29).

Whereas the language in the redesign states that "every teacher candidate" must complete "an extensive internship in a specifically designed Professional Development School" (Maryland Higher Education Commission, 1995, p. 2), schools and universities are encouraged to "design programs that reflect their unique institutional characteristics and to address the varying needs of their students" (Maryland Higher Education Commission, 1995, p. 11). Related to this study, one specific indicator,

located within Component II: Extensive Internship in the Maryland Institutional Performance Criteria, directs IHEs to "state the number of interns in each professional development school (PDS) site" (Maryland State Department of Education, Program Approval and Assessment Branch, 2014, p. 4). While not explicit in the language of the program approval document, it is the expectation that interns be placed in cohorts of five or more when assigned to full-time internship experiences in PDSs. According to MSDE, ensuring that at least five interns are placed in a PDS at the same time "will make it easier to establish a PDS culture within the school and. . .allow the work the interns do with students to have an impact on student achievement" (Maryland State Department of Education, 2013, p. 12). If an IHE is unable to place a cohort of at least five interns simultaneously in a single PDS site at any time over the 3-year period for which the IHE is assessed, this infraction is cited as an "area for growth" in the IHE's state evaluation and must be addressed and improved upon prior to the next re-accreditation visit. Should an IHE fail to improve on placing at least five interns simultaneously in each PDS site, punitive outcomes could, at worst, potentially lead to the loss of state accreditation.

Professional development schools: an implementation manual. The PDS implementation manual was designed to provide a practical overview of the process for implementing the PDS model between an IHE and a local school. The manual supplies the historical context, background on standards review and adoption, best practices in PDSs, and an overview of PDS evaluation practices in Maryland. Specific to this study is the content of Appendix B of the implementation manual, found near the end of the document. In this appendix, one of the guidelines cites, "There is a critical mass of interns in each school (typically 5 or more)" (Maryland Partnership for Teaching and Learning K–16, 2003, p. 39). The authors of the manual supply no further elaboration on the research-based reasons or rationale for choosing this specific number. However, when one of the original authors of the manual was consulted about the rationale for this critical mass, she consulted with another co-author, who replied, "We valued the concept of 'critical mass' so we talked about it and decided 3 is too few, maybe 4 is sort of like 3, so let's say 5 gives critical mass (6 might be too high as a standard expectation). . . we were using our own expertise to decide" (Anonymous, personal communication, May 5, 2014). This seemingly baseless, scientific approach gave further impetus to the need for research to help establish what constitutes critical mass in this context.

Standards for Maryland Professional Development Schools. In the State of Maryland, a PDS is defined as a

> collaboratively planned and implemented partnership for the academic and clinical preparation of interns and the continuous professional development of both school system and institution of higher education (IHE) faculty. The focus of the PDS partnership is improved student performance through research-based teaching and learning. A PDS may involve a single or multiple schools, schools systems, and IHEs and may take many forms to reflect specific partnership activities and approaches to improving both teacher education and PreK–12 schools" (Maryland State Department of Education, 2007, p. 1).

To guide the evaluation of the partnership efforts of PDS sites, the standards for Maryland's PDSs were developed out of Teitel's research on PDSs (2003). Embedded in five standards (Learning Community; Collaboration; Accountability; Organization, Roles, and Resources; Diversity and Equity) across four components (Teacher Preparation, Continuing Professional Development, Research and Inquiry, Student Achievement), 58 indicators were developed to assist IHEs in the development and implementation of successful PDS partnerships (see Appendix A, Standards for Maryland Professional Development Schools). Pertinent to this study, indicator (c) in the Learning Community/Teacher Preparation section of Maryland's PDS standards states that "interns are placed in cohorts and reflect on the learning experiences with their cohort peers and IHE and school faculty" (Maryland Partnership for Teaching and Learning K-16, 2003. p. 40). Again, though there is no mention of the exact number of interns required to be defined as a cohort, MSDE's expectation is that at least five interns be placed simultaneously at each PDS site each semester.

Researcher Concerns Regarding "Critical Mass of 5" Requirement

Having investigated the origin of the potential 'research-based' number of five interns equaling a cohort, the researchers' concerns were twofold. First, it appeared that some of Maryland's PDS guiding documents merely *suggested* placing interns in PDS cohorts of five or more, whereas the language in other state PDS documents, and the results of this university's most recent state evaluation, indicated that placement coordinators in IHEs *were required* to place interns in PDSs in cohorts of five or more. Second, prior to this study, this university's intern exit interviews and program evaluations produced no quantitative or qualitative data indicating significant issues with the quality of the internship experience based on cohort numbers alone. In fact, data over a 10-year period suggested that the quality of the internship experiences of interns placed in established PDSs in cohorts of less than five were similar to those of interns placed in cohorts of five or more. Much of the data suggested, instead, that the quality of the internship experience depended more on the strength of the mentor and/or the PDS partnership than on the number of interns placed at a PDS simultaneously. This led the researchers to investigate whether the number of interns placed in a cohort influenced the quality of the intern's full-time internship experience and his/her ability to affect student achievement at the PDS site.

Characteristics of Clinically Rich Field Experiences

The clinical field experience is often recognized as the most important component of teacher preparation programs (Cochran-Smith & Zeichner, 2005). In its *Report of the Blue Ribbon Panel on Clinical Preparation and Partnerships for Improved Student Learning*, NCATE (2010) called for a restructuring of clinical field experiences for teacher candidates to include a greater emphasis on rigorous accountability; the strengthening of candidate selection and placement; the revamping of curriculum, incentives, and staffing; greater support in partnerships; and an expansion of the knowledge base. Likewise, the literature suggests that additional characteristics of effective clinical field experiences in teacher education generally include (a) a focus on practice during coursework (Ball & Cohen, 1999); (b) intensive mentoring and coaching (Anderson & Stillman, 2010); (c) a common vision of teaching across coursework and placement opportunities (LaBoskey & Richert, 2002); (d) the integration of coursework and internship experiences (Grossman et al., 2009); and (e) partnerships that focus on change and improvement (Valencia, Martin, Place, & Grossman, 2009).

According to Lampert (2010), teacher candidates benefit from practice-oriented courses prior to their clinical field experiences. While researchers have not reached a consensus on the exact content of coursework, there is general agreement that practice-based courses should emphasize the application of effective instructional strategies during the teaching process as opposed to simply learning about the theoretical foundations of teaching and learning. In addition, Monk (1994), found that teacher candidates who completed more subject-area coursework were more likely to show student achievement gains than those candidates who completed less subject-area coursework.

A second characteristic of effective clinical experiences is intensive coaching and mentoring (Anderson & Stillman, 2010). Teacher candidates do not learn how to become effective teachers simply by working alongside a master teacher. According to Feiman-Nemser (2001), four effective coaching strategies can be used by mentors to enhance the professional learning of teacher candidates. First, mentors can identify ways for teacher candidates to improve their practice. Through the use of mentor feedback, teacher candidates can learn to self-identify areas of improvement on which to concentrate. Second, mentors can help teacher candidates in understanding theory and developing vocabulary related to the application of theory in the classroom. Developing shared technical vocabulary provides teacher candidates with the words they need to articulate questions and concerns they have about teaching practices. Third, mentors can assist in identifying areas of personal growth on the part of the teacher candidate. This allows the candidate to see himself/herself as evolving as a teacher. Finally, mentors can model effective lesson planning and teaching practices. Modeling provides teacher candidates with concrete examples of effective practices and, when modeling is accompanied by follow-up discussions, teacher candidates gain even more from the experience.

Coherence between courses and consistency between coursework and field experiences is a third characteristic of effective clinical field experiences. Collaboration among faculty members in teacher preparation programs can promote improved coherence between courses (Gallagher, Griffin, Parker, Kitchen & Figg, 2011). A disconnect between coursework and clinical field experiences can promote confusion and frustration on the part of the teacher candidate, who is expected to navigate any differences between the two (Feiman-Nemser & Buchmann, 1985; Gore & Zeichner, 1991; Anderson & Stillman, 2010; Zeichner, 2010). As a result, professional learning experiences on the part of teacher candidates could be hindered. Coherence between coursework and clinical experiences can be improved through strengthened school–university partnerships, such as those promoted in the PDS model.

A fourth characteristic of clinically rich field experiences is the integration of coursework and clinical experiences. Research suggests that clinical field experiences should occur throughout teacher education rather than as a final, capstone experience (Andrew, 1990; Ball & Forzani, 2009; Chin & Russell, 1995; Darling-Hammond & Hammerness, 2005). Though researchers have not reached a consensus on how many clinical experiences are appropriate or how many hours a candidate should spend in clinical experiences, research does suggest that such experiences should be interwoven throughout the teacher education program.

A final characteristic of effective clinical field experiences is the reliance on school–university partnerships. PDSs were designed to provide the ideal setting in which clinical experiences could take place. In addition, the first four characteristics are more naturally embedded into practice when partnerships have been established between schools and universities. Formalized partnerships move well beyond the traditional triad approach to clinical practice involving only the teacher candidate, the cooperating teacher, and the university supervisor (Valencia, Martin, Place & Grossman, 2009).

Each of these five clinically rich practices are reflected in NCATE's 10 design principles (2010) and in MSDE's Professional Development School standards (Maryland Partnership for Teaching and Learning K–16, 2003). What could not be found in the design principles, MSDE'S PDS standards, or a literature review on best practices related to student teaching placements are references to candidate cohort sizes in school–university partnerships.

Cluster Placement/Cohort Models vs. Traditional Isolated Placements

Limited research exists on the recommended number of interns that should be placed simultaneously at a PDS site during student teaching experiences in order to achieve a quality internship experience for all interns and effectively address student achievement at the PDS site. In fact, only one study was

found to compare the cohort model to traditional isolated placements. Kern's study (2004) evaluated the implementation and efficacy of two models of teacher placement, one focusing on traditional isolated placements and the other focused on clusters of four to six teacher candidates in a PDS. Using ethnographic research methods, findings suggested that the clustered placements were more effective than the isolated placements in creating "reflective, interactive educators" (Kern, 2004, p. 29). The cluster model, which included seminars that were held at the PDS site, allowed time for camaraderie between teacher candidates, meaningful reflection on the integration of theory and practice, and additional opportunities to develop professional attitudes and behaviors. Results also indicated that the clustered teacher candidates saw increased benefits in being part of a team, increased opportunities to discuss challenges they confronted during the student teaching experience, and increased understanding related to lesson and unit planning. According to the teacher candidates, being part of the cluster and engaging with their peers was considered just as valuable as having the support of their supervisors during the student teaching experience.

While not a placement model comparison study, Ruben, Rigelman, and McParker (2016) investigated what key stakeholders in a school-university partnership perceived to be the benefits and drawbacks of a school-university partnership whereby teacher candidates were clustered in a coteaching model clinical field experience. In their qualitative study, eight teacher candidates were placed with cooperating teachers in inclusive general-education classrooms in a high-needs school over an extended two-year clinical field experience. Interviews with teacher candidates, university faculty, special- and general-education teachers, and school administrators revealed positive outcomes through this collaboration. Five themes emerged from stakeholder responses: (a) the coteaching cluster student placement model benefitted the entire school, (b) cooperating teachers showed growth and increased teaching skills, (c) there was additional assistance for students with special needs in the classroom, (d) teacher candidates built positive relationships with middle-school students, and (e) meaningful collaboration occurred between teacher candidates and cooperating teachers. As part of their discussion related to the results, the researchers suggested that schools consider the benefits of hosting clusters or cohorts of teacher candidates in a coteaching model, as it promotes greater teacher collaboration, ongoing teacher learning, and additional human resources for large, diverse student populations (Ruben, Rigelman, & McParker, 2016).

Research Question

The following research question guided this study: Do perceptions about the quality of the internship experience of teacher candidates assigned to a cohort of five or more in a single PDS differ significantly from the perceptions of teacher candidates assigned to cohorts of four or less?

Methodology

Design

A 44-item survey instrument was designed for the study. Likert-scale and open-ended questions were both used to gain information related to teacher candidate perceptions about the quality of their internship experiences. The first 32 questions were derived from the 58 indicators (See Appendix A) within the *Standards for Maryland Professional Development Schools* (Maryland Partnership for Teaching and Learning K-16, 2003, p. 40). In reviewing each of the 58 indicators, researchers determined that only 32 of those indicators were directly applicable to the quality of the teacher candidate's internship experience in the PDS. The remaining 26 indicators were deemed more applicable to the infrastructure and organization of the PDS model, and not to the quality of the teacher candidates' experiences in the PDS. See Appendix B for a chart that highlights the indicators upon which the researchers chose to develop survey questions.

For example, under Standard II/Collaboration, Component/Continuing Professional Development, Indicator (b), it reads, "IHE and school faculty engage in cross-institutional staffing" (Maryland Partnership for Teaching and Learning K–16, 2003, p. 40). Cross-institutional staffing is not an indicator the teacher candidate would be able to fairly assess as it relates to the quality of his/her internship experience; therefore, this indicator was eliminated for inclusion in the survey. Similarly, and for this reason, 25 additional indicators from the standards were eliminated for inclusion in the survey instrument.

The remaining 32 indicators were determined by the researchers to be fairly assessed by teacher candidates because they related to the quality of the internship experience itself. Hence, these indicators were each reworded from the teacher candidates' point of view for the survey instrument. For example, under Standard II/Collaboration, Component/Continuing Professional Development, Indicator (c), it reads, "PDS partners identify and address professional development needs of faculty and interns" (Maryland Partnership for Teaching and Learning K-16, 2003, p. 40). This indicator was determined to be applicable to the evaluation of teacher candidates' internship experiences, and was amended to read, "My PDS partners identified and addressed my professional development needs." Additional thematic examples of indicators upon which the researchers chose to develop survey questions asked candidates to evaluate their participation in the full range of teaching responsibilities at the PDS; the support they received in planning, instruction, and assessment; the quality of their evaluation experiences; the chance to provide feedback on their placements and programming; the guidance they received in implementing the action research/inquiry process; and the support they received in working with diverse student populations, parents, and the community. Thus, the 58 indicators within Maryland's PDS standards were narrowed to the aforementioned 32, based upon the applicability of the

indicator to the research question regarding interns' perceptions of the quality of their internship experiences.

Researchers used a six-point Likert scale of *Very Strongly Agree; Strongly Agree; Agree; Disagree; Strongly Disagree; and Very Strongly Disagree* for the first 32 questions. If a teacher candidate responded "not applicable" to any question, the response was classified as missing data, and was not included in the data analysis. Teacher candidates were asked to assess the degree to which they perceived that each of these indicators contributed to the quality of their experiences during each of their two respective internship placements, and their ability to impact student achievement. This scale forced teacher candidates to respond in either a positive or negative direction.

To ensure content validity, a team of university professors and supervisors was asked to review the amended language on a draft survey to make certain that the language clearly reflected the meaning associated with each of the respective 32 indicators. After the suggested edits were made, the list of 32 statements was finalized and included in the survey form.

In addition to the first 32 questions, there were four other Likert-structured items included. These questions were *not* derived from the Maryland PDS indicators, and were designed to solicit more insight into intern perceptions of their relationships with cohort peers during each of their student teaching placements. These questions were worded as follows: #33) I had the opportunity to plan instructional activities with fellow interns; #34) I had the opportunity to meet regularly with fellow interns; #35) I had the opportunity to participate in professional development activities with fellow interns; and #36) I perceived that 'a professional learning community' was evident amongst the PDS partners at the school site and the university.

Also two open-ended questions were designed to generate information focused on the teacher candidates' perceptions about what had the greatest influence on their successful internship experiences (e.g., supervisor, mentor, coursework in content, coursework in pedagogy), and conversely, what was perceived as the greatest difficulty encountered during their internship experiences (e.g., lesson planning, classroom management, lack of mentor support, difficulty with technology). Finally, six demographic variable questions were included for future analyses. These variables included the following: gender, age, race, program of study, first placement school assignment, and second placement school assignment. See Appendix C for the survey questions.

Participants

Participants in the study included pools of teacher candidates who completed their first placement in a PDS site as part of their 20-week student teaching experience, and pools of teacher candidates who completed their second placement in a PDS site. The size of the pool varied from the first to the second placement because not all teacher candidates were assigned to PDS sites during *both* of their respective placements. For example, some candidates were assigned to a non-PDS site during their first or their second placement. Furthermore, this data collection process covered eight semesters with different teacher candidates each semester from fall 2013 through spring 2017. See Table 1 for a data summary of respondents in PDSs for each semester.

Data Collection

At the conclusion of both internship experiences, teacher candidates were asked to complete an online survey about each of their placement experiences in a Professional Development School. SurveyMonkey® was used to administer the survey. Data from the survey were collected over eight semesters.

Data Analysis and Results

All data were analyzed based upon a disaggregation of first and second PDS internship placements for each teacher candidate. When applying a one-way ANOVA to study first placement data (refer to Table 2), only one question item, which was *not* derived from the 32 Maryland PDS indicators that were chosen for use in the survey instrument, proved to be significant: #34) "I had the opportunity to meet regularly with fellow interns." The researchers fully expected this result because teacher candidates assigned to a PDS by themselves would likely not have had an opportunity to meet regularly with fellow interns, as much as those assigned to schools in cohorts of 2, 3, 4, 5, or 5 or more. What surprised the researchers was that there were no other statistically significant differences in the perceptions of interns related to the quality of their internship experiences based on Maryland PDS standards.

The descriptive statistics associated with item #34 substantiated this finding as noted in Table 3. The values on the scale for both Placements #1 and #2 are represented accordingly: 11 - very strongly disagree, 12 - strongly disagree, 13 - disagree, 14 - agree, 15 - strongly agree, and 16 - very strongly agree. Thus the difference between a cohort of size 1 and a cohort of size 2 is about 1.5 units on this scale.

Multiple comparisons with this dependent variable were also analyzed using the Tukey HSD Post Hoc assessment tool. The data in Table 4 affirmed that there were significant differences between the perceptions of teacher candidates who were placed alone at a PDS site and those placed in cohorts of 2, 3, 4, 5 and 5 or more, respectively.

When applying a one-way ANOVA to study the second placement data, *none* of the items proved to be statistically significant; surprisingly not even question item #34) "I had the opportunity to meet regularly with fellow interns," which had proven to be significantly different in the first placement analysis. A post hoc Tukey HSD test was also examined for multiple comparisons, and this analysis did not produce any significant findings either.

From a qualitative analysis, there were two queries posed to participants designed to elicit additional information about the quality of their internship experiences. These questions were not, however, broken down by placement. The first query, Question #37 read: *What do you credit as having the most influence on the success*

Table 1. Number of Teacher Candidates Responding to the Surveys Each Semester

	First Placement			*Second Placement*		
Semester	*N*	*Pool*	*%*	*N*	*Pool*	*%*
Fall 2013	11	43	25.6	14	35	40.0
Spring 2014	9	26	34.6	9	21	42.9
Fall 2014	13	38	34.2	12	32	37.5
Spring 2015	28	39	71.8	25	34	73.5
Fall 2015	8	26	30.8	8	16	50.0
Spring 2016	28	34	82.4	25	31	80.1
Fall 2016	30	38	78.9	26	34	76.5
Spring 2017	21	41	51.2	17	38	44.7
Totals	148	285	51.9	136	241	56.4

of your internship? Please explain. An overwhelming theme emerged related to this question. Over 50% of teacher candidates identified mentor teachers as the most important component of their experience in the classroom. Others identified their university supervisor, their own background knowledge about pedagogy, or their content knowledge as contributing most to their success. Below are some of the qualitative responses that emerged about intern work with their mentors:

- My mentors' feedback was of extreme importance in my development as an intern in both placements. Their feedback was specific and respectful. They also suggested ways to fix the issues. Their guidance helped me to grow and take risks.
- I have learned so much from both of my mentor teachers. I could not have gotten through if it weren't for their support.
- Both mentors were there when I needed them no matter what, always willing to help and guide me. Although my coursework and supervisors were imperative to my learning experience, my mentors were the most influential and they advised me during every step of the internship. It was everyday multitasking that has to been seen to grasp the importance of managing it with patience and grace. The mentors' dispositions that engaged and enthused made the learning experience so powerful and rewarding.
- My mentors allowed me to have a lot of input on how the internship was structured to ensure that I felt comfortable, and they gave me timely feedback.
- Both of my mentors have been supportive, knowledgeable, eager, and realistic.

Table 2. T-Test: Item #34 – "I had the opportunity to meet regularly with fellow interns."

	Sum of Squares	*Df*	*Mean Square*	*F*	*Sig.*
Between groups	57.106	5	11.421	4.871	.000
Within groups	311.829	133	2.345		
	368.935	138			

Another query, Question #38 read: *What do you credit most for any identified difficulty encountered during your internship? Please explain*. A full range of evenly dispersed responses emerged relating to the following: lesson planning, mentors, pedagogy, supervisors, technology, common core standards, and the school's leadership team. No single predominant theme emerged from the feedback offered by the participants for this question. Several qualitative examples of these respondent comments included the following:

- I just don't feel that confident in knowing whether the lessons I create are effective enough.
- I didn't gain proficiency in the use of Smartboards or other new technology in my course.
- My first supervisor was difficult to work with, and did not support my learning experience.
- My mentor took a "sink or swim" stance that I did not find very helpful.

Discussion and Implications

Using the Maryland PDS standards as a research-based theoretical framework to capture intern perceptions about the quality of their student teaching experiences, these results suggest that there were no statistically significant differences in the perceptions of interns placed in cohorts of 5 or more compared to 4 or less. Rather, qualitative data from the study suggest that what may be more important than the number of teacher candidates simultaneously placed at a PDS site are 1) the quality of the PDS partnership that exists between the school and university and/or 2) the support of the mentor teacher to whom the candidate is assigned.

Because Notre Dame of Maryland University partners with PDSs in a large, urban, metropolitan area, which includes many high-needs schools with significant teacher turnover, it is oftentimes difficult to secure five or more placements per school every semester. Even well-established PDSs fluctuate with respect as to how many qualified mentors are available and willing to host the university's interns each semester. When an IHE considers whether to place interns at an established PDS that has 2-4 highly qualified mentors in any given semester as opposed to five or more, one must ask whether IHEs should force five or more placements every semester in every school simply to adhere to Maryland's *required* cohort numbers. This research suggests otherwise. Therefore, it may be appropriate and timely for Maryland's teacher preparation program community to begin to reconsider its requirement.

From this research, new questions have emerged. For example, if there is no significant difference in the quality of the internship experience for teacher candidates, aside from having opportunities to meet/plan with one another, what is the value added by having cohorts of teacher candidates placed in the same school simultaneously? Why are some components perceived to be implemented to a higher degree than others? Why did teacher candidates perceive there to be a strong 'professional learning

Table 3. Descriptive Statistics: Item #34 – "I had the opportunity to meet regularly with fellow interns."

					95% Confidence Interval for Mean		
	N	*Mean*	*Std. Dev.*	*Std. Error*	*Lower Bound / Upper Bound*	*Min.*	*Max.*
One	21	12.62	1.359	.297	12.00	13.24	11	16
Two	36	14.28	1.649	.275	13.72	14.84	11	16
Three	34	13.88	1.684	.289	13.29	14.47	11	16
Fours	16	14.06	1.482	.370	13.27	14.85	12	16
Five	16	14.88	1.204	.301	14.23	15.52	13	16
More than five	16	14.31	1.448	.362	13.54	15.08	12	16
Total	139	13.98	1.635	.139	13.70	14.25	11	16

community' among the PDS partners at the school site and university? How can the difficulties encountered during one's internship be mitigated or eliminated? Another research activity might include an examination of teacher candidates assigned to non-PDS sites to assess the extent to which the findings may vary from those assigned to PDS sites. Moreover, a comparison of PDS to non-PDS placement of teacher candidates may be warranted to examine potential differences in perceptions.

Finally, one must consider whether there are any perceived benefits to being placed in a PDS alone. Because this study inadvertently revealed that there were no statistically significant differences in the quality of the student teaching experience between teacher candidates placed in cohorts versus those placed as singletons, the benefits of being placed as a singleton should be explored further. While there is an inherent assumption that being placed with peers must be more beneficial than being placed in a PDS alone, limited research does not confirm this assumption.

Educator preparation programs in Maryland and across the nation are facing many challenges, which include but are not limited to attaining national accreditation; securing and effectively utilizing resources to maintain and promote PDSs; advocating for a revision of the current PDS model; building much needed, but costly, technological infrastructures that will provide meaningful feedback on teacher candidates' and new educators' effectiveness in the field; and establishing and/or maintaining positive working relationships with the P-12 community for clinical field experiences. In order to approach these challenges in a meaningful way, it is essential that professional practices be research-based and data-driven to better inform decision-making as IHE's strive for continuous improvement. If, however, practices are built on faulty logic, haphazard decision-making, and/or a lack of data, then teacher preparation programs run the risk of depriving teacher candidates and the P-12 students they will serve, the benefits of the knowledge we possess, but fail to recognize or utilize.

Research of this type needs to be expanded upon so that we can generate best program and instructional practices based upon research-based data. Other questions need to be answered as well:

- Which Maryland standards and components are most essential to the effectiveness of teacher candidates and which ones are the state's educator preparation programs implementing with fidelity?
- Should there be just one state PDS model, or is there the potential for a variety of differentiated approaches to building P-12 partnerships?
- Should PDS partnerships be predicated upon the expertise of the faculty within a given school as opposed to the number of required simultaneous placements?
- Do local school systems perceive that PDS-prepared educators are more qualified and effective than those prepared in non-PDS sites? Do they prioritize their hiring of PDS-prepared educators? Do PDS-prepared educators have higher rates of retention?

Lingering, unanswered questions such as these and many others are cited in Maryland's implementation manual for Professional Development Schools (Maryland Partnership for Teaching and Learning K–16, 2003). Yet, it appears that we have somehow become more focused on the 'process' for maintaining a framework than we have on the 'impact' of that framework. It is incumbent upon the IHEs, the P-12 community, and state departments of education to expand collaborative efforts to engage in research that will pave the way for new and improved instructional practices and university-school partnerships. SUP

Table 4. Tukey HSD Post Hoc: Item #34 – "I had the opportunity to meet regularly with fellow interns."

(I) # of Teacher Candidates at School at Same Time First Placement	*(J) # of \Teacher Candidates at School at Same Time First Placement*	*Mean Diff. (I-J)*	*Std. Error*	*Sig.*	*95% Confidence Interval*	
					Lower Bound / Upper Bound	
Two	One	1.659	.420	.002	.44	2.87
Three	One	1.263	.425	.040	.03	2.49
Four	One	1.443	.508	.057	-.03	2.91
Five	One	2.256	.508	.000	.79	3.73
More than five	One	1.693	.508	.014	.22	3.16

Appendix A. Standards for Maryland Professional Development Schools

Components				
Standards	**Teacher Preparation**	**Continuing Professional Development**	**Research and Inquiry**	**Student Achievement**
I. Learning Community *The PDS recognizes and supports the distinct learning needs of faculty/staff, interns, students, parents, and community members.*	a. PDS partners collaboratively integrate PreK-12 instructional content priorities in the teacher education program and field-based experiences; b. Interns engage in the full range of teacher activities in the school community; c. Interns are placed in cohorts and reflect on learning experiences with their cohort peers and IHE and school faculty.	a. PDS partners collaboratively create, conduct and participate in needs-based professional development to improve instruction and positively impact student achievement; b. PDS partners plan and participate in activities where all school staff is encouraged to support and interact with interns; c. School and campus-based instructional activities are informed by PDS experiences.	a. PDS partners collaboratively engage in inquiry and/or action research; b. PDS partners disseminate results of research/inquiry activities.	a. IHE and school faculty model the use of state/local learning outcomes and assessments in coursework and field experiences; b. Interns demonstrate competency in using specified learning outcomes and assessments to plan, deliver and assess instruction.
II. Collaboration *PDS partners work together to carry out the collaboratively defined mission of the PDS.*	a. IHE and school faculty collaboratively plan and implement curricula for interns to provide authentic learning experiences; b. PDS partners share responsibility for evaluating interns; c. PDS partners collaboratively meet the needs of pre-service mentors; d. IHE teacher education, arts and science, and school faculty collaborate in planning and implementing content-based learning experiences for PDS partners.	a. PDS stakeholders collaborate to develop, implement and monitor teacher education across institutions; b. IHE and school faculty engage in cross-institutional staffing; c. PDS partners identify and address professional development needs of faculty and interns; d. PDS partners provide ongoing support for all educators, including non-tenured and provisionally certified teachers.	a. PDS partners collaboratively examine the action research/inquiry process; b. PDS partners identify the research/inquiry agenda based on the data-driven needs of the PDS.	a. PDS partners use demographic and performance data to modify instruction to improve student achievement; b. Representatives of PDS stakeholder groups participate on the school improvement team; c. PDS partners collaborate to plan and implement PreK-12 performance assessments and use outcomes to guide instructional decisions.

Appendix A. Continued

III. Accountability *The PDS accepts the responsibility of and is accountable for upholding professional standards for preparing and renewing teachers in accordance with the Redesign.*	a. IHE and school faculty collaborate on the development of intern performance assessments; b. The teacher education program requires that interns be assessed through a standards-based portfolio; c. PDS partners develop and implement a collaborative agreement regarding exit standards for interns; d. IHE and school faculty solicit and use feedback from interns to modify the teacher education program	a. PDS partners assess the collaborative professional development provided in the PDS; b. IHE and school faculty collaboratively prepare to mentor and supervise interns; c. PDS partners work together to meet one another's professional development needs; d. PDS partners recognize one another's accomplishments.	a. PDS partners collect, analyze and use data for program planning and implementation; b. PDS partners use results of research and inquiry to inform future practice within the PDS.	a. PDS stakeholders assume responsibility for improving PreK-12 student achievement; b. PDS partners collaborate to determine the impact of PDS on student achievement.
IV. Organization, Roles, and Resources *Partner institutions allocate resources to support the continuous improvement of teaching and learning.*	a. PDS partners communicate regarding roles, responsibilities and operating procedures and use continuous feedback to improve the operation of the PDS; b. PDS partners share resources to support the learning of PreK-12 students and PDS partners; c. PDS partners seek and assess feedback concerning PDS induction for interns and new faculty, making changes as needed.	a. IHEs recognize and reward the PDS work of IHE faculty and staff through organizational structures and incentives that fully integrate PDS work with the mission of the teacher education program; b. PDS stakeholders institutionalize recognition and rewards for pre-service mentors; c. PDS partners use the PDS as a vehicle for the recruitment and retention of teachers; d. A Memorandum of Understanding signed by PDS partners delineates the organization of the PDS and the resources to be provided.	a. PDS partners model professional ethics and engage in substantive examination of ethical issues affecting research and practice; b. IHE and local school system partners provide joint resources to support collaborative school-based PDS research/inquiry.	a. PDS stakeholders examine the impact of PDS on student achievement; b. PDS partners use performance data in strategic planning to design, implement, evaluate and revise PDS policies, roles and resources; c. The IHE and school district institutionalize resources to ensure the continuity of the PDS.
V. Diversity and Equity *The PDS supports equitable*	a. The IHE provides all interns equitable access to an extensive internship of at least 100 days over two consecutive semesters in a PDS;	a. PDS partners provide equitable opportunities for stakeholder participation in PDS activities; b. PDS partners participate in, assess and refine training to	a. PDS partners plan and conduct action research/inquiry with attention to issues of equity;	a. PDS partners work with parents and community members in support of student learning;
involvement of PreK-16 faculty/staff and interns to support equitable outcomes for diverse learners.	b. Interns demonstrate skill in working with diverse student, parent and staff populations; c. Interns demonstrate the ability to work with students with special needs and collaborate with special educators.	support knowledge, skills and dispositions surrounding equity issues; c. PDS partners represent diverse backgrounds.	b. PDS partners disseminate research findings related to student equity and use these for program improvement.	b. PDS partners collaborate to ensure that all education is multicultural; c. PDS partners focus on meeting the needs of diverse learners to eliminate achievement gaps.

Appendix B. Indicators on Which Survey Questions Were Developed by Researchers

Components				
Standards	**Teacher Preparation**	**Continuing Professional Development**	**Research and Inquiry**	**Student Achievement**
I. Learning Community *The PDS recognizes and supports the distinct learning needs of faculty/staff, interns, students, parents, and community members.*	a. PDS partners collaboratively integrate PreK-12 instructional content priorities in the teacher education program and field-based experiences; b. Interns engage in the full range of teacher activities in the school community; c. Interns are placed in cohorts and reflect on learning experiences with their cohort peers and IHE and school faculty.	a. PDS partners collaboratively create, conduct and participate in needs-based professional development to improve instruction and positively impact student achievement; b. PDS partners plan and participate in activities where all school staff is encouraged to support and interact with interns; c. School and campus-based instructional activities are informed by PDS experiences.	a. PDS partners collaboratively engage in inquiry and/or action research; b. PDS partners disseminate results of research/inquiry activities.	a. IHE and school faculty model the use of state/local learning outcomes and assessments in coursework and field experiences; b. Interns demonstrate competency in using specified learning outcomes and assessments to plan, deliver and assess instruction.
II. Collaboration *PDS partners work together to carry out the collaboratively defined mission of the PDS.*	a. IHE and school faculty collaboratively plan and implement curricula for interns to provide authentic learning experiences; b. PDS partners share responsibility for evaluating interns; c. PDS partners collaboratively meet the needs of pre-service mentors; d. IHE teacher education, arts and science, and school faculty collaborate in planning and implementing content-based learning experiences for PDS partners.	a. PDS stakeholders collaborate to develop, implement and monitor teacher education across institutions; b. IHE and school faculty engage in cross-institutional staffing; c. PDS partners identify and address professional development needs of faculty and interns; d. PDS partners provide ongoing support for all educators, including non-tenured and provisionally certified teachers.	a. PDS partners collaboratively examine the action research/inquiry process; b. PDS partners identify the research/inquiry agenda based on the data-driven needs of the PDS.	a. PDS partners use demographic and performance data to modify instruction to improve student achievement; b. Representatives of PDS stakeholder groups participate on the school improvement team; c. PDS partners collaborate to plan and implement PreK-12 performance assessments and use outcomes to guide instructional decisions.

Appendix B. Continued

III. Accountability *The PDS accepts the responsibility of and is accountable for upholding professional standards for preparing and renewing teachers in accordance with the Redesign.*	a. IHE and school faculty collaborate on the development of intern performance assessments; b. The teacher education program requires that interns be assessed through a standards-based portfolio; c. PDS partners develop and implement a collaborative agreement regarding exit standards for interns; d. IHE and school faculty solicit and use feedback from interns to modify the teacher education program	a. PDS partners assess the collaborative professional development provided in the PDS; b. IHE and school faculty collaboratively prepare to mentor and supervise interns; c. PDS partners work together to meet one another's professional development needs; d. PDS partners recognize one another's accomplishments.	a. PDS partners collect, analyze and use data for program planning and implementation; b. PDS partners use results of research and inquiry to inform future practice within the PDS.	a. PDS stakeholders assume responsibility for improving PreK-12 student achievement; b. PDS partners collaborate to determine the impact of PDS on student achievement.
IV. Organization, Roles, and Resources *Partner institutions allocate resources to support the continuous improvement of teaching and learning.*	a. PDS partners communicate regarding roles, responsibilities and operating procedures and use continuous feedback to improve the operation of the PDS; b. PDS partners share resources to support the learning of PreK-12 students and PDS partners; c. PDS partners seek and assess feedback concerning PDS induction for interns and new faculty, making changes as needed.	a. IHEs recognize and reward the PDS work of IHE faculty and staff through organizational structures and incentives that fully integrate PDS work with the mission of the teacher education program; b. PDS stakeholders institutionalize recognition and rewards for pre-service mentors; c. PDS partners use the PDS as a vehicle for the recruitment and retention of teachers; d. A Memorandum of Understanding signed by PDS partners delineates the organization of the PDS and the resources to be provided.	a. PDS partners model professional ethics and engage in substantive examination of ethical issues affecting research and practice; b. IHE and local school system partners provide joint resources to support collaborative school-based PDS research/inquiry.	a. PDS stakeholders examine the impact of PDS on student achievement; b. PDS partners use performance data in strategic planning to design, implement, evaluate and revise PDS policies, roles and resources; c. The IHE and school district institutionalize resources to ensure the continuity of the PDS.
V. Diversity and Equity *The PDS supports equitable*	a. The IHE provides all interns equitable access to an extensive internship of at least 100 days over two consecutive semesters in a PDS;	a. PDS partners provide equitable opportunities for stakeholder participation in PDS activities; b. PDS partners participate in, assess and refine training to	a. PDS partners plan and conduct action research/inquiry with attention to issues of equity;	a. PDS partners work with parents and community members in support of student learning;
involvement of PreK-16 faculty/staff and interns to support equitable outcomes for diverse learners.	b. Interns demonstrate skill in working with diverse student, parent and staff populations; c. Interns demonstrate the ability to work with students with special needs and collaborate with special educators.	support knowledge, skills and dispositions surrounding equity issues; c. PDS partners represent diverse backgrounds.	b. PDS partners disseminate research findings related to student equity and use these for program improvement.	b. PDS partners collaborate to ensure that all education is multicultural; c. PDS partners focus on meeting the needs of diverse learners to eliminate achievement gaps.

Appendix C

Teacher Candidate Survey Based on Maryland's PDS Standards

1. My PDS partners worked together to help me integrate PreK–12 instructional content priorities in my teacher education program and internship experience. (l.TP.a)
2. I engaged, alongside my mentor teacher, in the full range of teacher activities in the school community. (1.TP.b)
3. I was able to reflect on my learning experiences with my cohort peers. (l.TP.c)
4. I was able to reflect on my learning experiences with university personnel. (l.TP.c)
5. I was able to reflect on my learning experiences with the faculty at my PDS site. (1.TP.c)
6. My PDS partners worked together to help me plan and implement curricula to provide authentic learning experiences for my students. (11.TP.a)
7. My PDS partners shared responsibility for evaluating me. (11.TP.b)
8. I was assessed through a standards-based e-Portfolio (Chalk and Wire). (TP.111.b)
9. My PDS partners worked together to implement exit standards for me. (111.TP.c)
10. My PDS partners solicited feedback from me to evaluate the teacher education program. (III.TP.d)
11. My PDS partners sought and assessed feedback from me concerning my induction to the school, making changes as needed. (IV.TP.c)
12. I demonstrated skill in working with diverse students, parents, and/or staff populations. (V.TP.b)
13. I demonstrated the ability to work with students with special needs. (V.TP.c)
14. I demonstrated the ability to collaborate with special educators. (V.TP.c)
15. My PDS partners planned and participated in activities where they were able to support and interact with me as an intern. (1.CPD.b)
16. My PDS partners identified and addressed my professional development needs. (11.CPD.c)
17. My PDS partners recognized my accomplishments as an intern. (111.CPD.b)
18. My PDS partners worked together to help me engage in inquiry and/or action research. (I.RI.a)
19. My PDS partners helped me disseminate the results of my research/inquiry activities. (1.Rl.b)
20. My PDS partners worked together to help me examine the action research/inquiry process. (II.RI.a)
21. My PDS partners helped me identify a research/inquiry agenda based on the needs of my PDS site. (11.Rl.b)
22. My PDS partners modeled professional ethics. (IV.-RI.a)
23. My PDS partners engaged in an examination of ethical issues affecting research and practice. (IV.RI.a)
24. My PDS partners helped me plan and conduct action research/inquiry with attention to issues of equity. (V.Rl.a)
25. My PDS partners modeled the use of state/local learning outcomes and assessments in my coursework and field experiences. (I.SA.a)
26. I demonstrated competency in using specified learning outcomes and assessments to plan, deliver, and assess instruction. (I.SA.bl
27. My PDS partners worked together to help me plan and implement PreK–12 performance assessments. (11.SA.c)
28. My PDS partners worked together to help me use performance assessment outcomes to guide my instructional decisions. (11.SA.c)
29. My PDS partners worked together to determine the impact of PDS on student achievement at my PDS site. (111.SA.b)
30. My PDS partners worked with parents and/or community members in support of student learning. (V.SA.a)
31. My PDS partners worked together to ensure that all education was multicultural. (V.SA.b)
32. My PDS partners focused on meeting the needs of diverse learners to eliminate achievement gaps. (V.SA.c)

Four additional qualitative questions that were not directly derived from or aligned to a PDS standard included the following:

33. I had the opportunity to plan instructional activities with fellow interns.
34. I had the opportunity to meet regularly with fellow interns.
35. I had the opportunity to participate in professional development activities with fellow interns.
36. I perceived that a "professional learning community" was evident among the PDS partners at the school site and the university.

Two open-ended questions included the following:

37. What do you credit as having the most influence on the success of your internship? Please explain.
38. What do you credit most for any identified difficulty encountered during your internship? Please explain.

Six demographic questions included the following:

39. Please identify your program of study at the university.
40. Please identify the school to which you were assigned during your first placement.
41. Please identify the school to which you were assigned during your second placement.

42. What is your gender?
43. Which category below includes your age?
44. Which race/ethnicity best describes you?

References

Anderson, L., & Stillman, J. (2010). Opportunities to teach and learn in high-needs schools: student teachers' experiences in urban placements. *Urban Education, 45*(2), 109-141.

Andrew, M. D. (1990). Differences between graduates of 4-year and 5-year teacher preparation programs. *Journal of Teacher Education, 41*(2), 45-51.

Ball, D. L., & Cohen, D. K. (1999). Developing practice, developing practitioners: Toward a practice-based theory of professional education. In. L. Darling-Hammond, & G. Sykes (Eds.), *Teaching as the learning profession: Handbook of policy and practice* (pp. 3-32). San Francisco, CA: Jossey-Bass.

Ball, D. L., & Forzani, F. M. (2009). The work of teaching and the challenge for teacher education. *Journal of Teacher Education, 60*(5), 497-511.

Chin, P., & Russell, T. (1995, June). *Structure and coherence in a teacher education program: Addressing the tension between systematic and the educative agenda*. Paper presented at the Annual Meeting of the Canadian Society for the Study of Education, Montreal, Quebec, Canada.

Cochran-Smith, M., & Zeichner, K. (2005). *Studying teacher education: The report of the AERA panel on research and teacher education*. Mahwah, NJ: Lawrence Erlbaum.

Darling-Hammond, L., & Hammerness, K. (2005). The design of teacher education programs. In L. Darling-Hammond, & J. Bransford, (Eds.), *Preparing teachers for a changing world* (pp. 390-441). San Francisco, CA: Jossey-Bass.

Feiman-Nemser, S. (2001). Helping novices learn to teach: Lessons from an exemplary support teacher. *Journal of Teacher Education, 52*(1), 17-30.

Feiman-Nemser, S., & Buchmann, M. (1985). Pitfalls of experience in teacher preparation. *Teachers College Record, 87*, 53-65.

Gallagher, T., Griffin, S., Parker, D., Kitchen, J., & Figg, C. (2011). Establishing and sustaining teacher educator professional development in a self-study community of practice: Pre-tenure teacher educators developing professionally. *Teaching and Teacher Education, 27*(5), 880-890.

Gore, J. M., & Zeichner, K. (1991). Action research and reflective teaching in preservice teacher education: A case study from the United States. *Teaching and Teacher Education, 7*(2), 119-136.

Grossman, P., Compton, C., Igra, D., Ronfeldt, M., Shahan, E. & Williamson, P. (2009). Teaching practice: A cross-professional perspective. *Teachers College Record, 111*(9), 2055-2100.

Kern, S. M., (2004). Investigation of a student teacher placement model that fosters inservice education in the USA. *Journal of Inservice Education, 30*(1), 29-56.

LaBoskey, V. K., & Richert, A. E. (2002). Identifying good student teaching placements: A programmatic perspective. *Teacher Education Quarterly, 29*(2), 7-34.

Lampert, M. (2010). Learning teaching in, from, and for practice: What do we mean? *Journal of Teacher Education, 61*(1–2), 21-34.

Maryland Higher Education Commission. (1995). *Teacher education task force report*. Accessed April 2, 2016 from http://www.marylandpublicschools.org/about/ Documents/DEE/Program Approval/ MAP/Redesign_Teacher_Ed.pdf.

Maryland Partnership for Teaching and Learning K–16, Superintendents and Deans Committee. (2003). *Professional development schools: An implementation manual*. Accessed April 2, 2016 from http://www.marylandpublicschools.org/about/ Documents/DEE/ ProgramApproval/PDS/ PDSImplementationManual.pdf.

Maryland State Department of Education. (2013). *Maryland state addendum to the joint NCATE/STATE continuing accreditation/ program approval report: Notre Dame of Maryland University*. Retrieved April 2, 2016 from http://www.aims.caepnet.org/ AIMS_ MainFrame.asp, 12.

Maryland State Department of Education, Program Approval and Assessment Branch (2014). *Maryland Institutional Performance Criteria*. Accessed April 2, 2016 from http://archives.marylandpublicschools.org/MSDE/divisions/certification/progapproval/docs/InstitutionalPerformanceCriteria_09032014.pdf.

Maryland State Department of Education, Program Approval and Assessment Branch. (2007). *Professional development schools assessment framework for Maryland*. Accessed April 2, 2016 from http://www.marylandpublicschools.org/about/Documents/DEE/ ProgramApproval /PDS/PDSAssessmentFramework.pdf.

Monk, D. (1994). Subject area preparation of secondary mathematics and science teachers and student achievement. *Economics of Education Review, 13*(2), 125–145.

National Council for Accreditation of Teacher Education. (2008). *NCATE unit standards*. Accessed April 2, 2016 from http://www.ncate.org/Standards/UnitStandards/UnitStandardsinEffect2008/tabid/476/Default. aspx#stnd3.

National Council for the Accreditation of Teacher Education (2010). Report of the Blue Ribbon Panel on Clinical Preparation and Partnerships for Improved Student Learning, NCATE: *Transforming teacher education through clinical practice: A national strategy to prepare effective teachers*. Accessed April 2, 2016 from http://www.ncate.org/ LinkClick.aspx?fileticket=zzeiB1OoqPk%3d&tabid=715.

Ruben, B., Rigelman, N., & McParker, M. (2016). Analysis of stakeholder perceptions of a clinical model involving co-teaching and extended-field experiences in an inclusive middle-grades setting. *Research in Middle Level Education Online*, *39*(6), 1-18.

Teitel, L. (2003). *The professional development schools handbook*. Thousand Oaks, CA: Corwin Press.

Valencia, S., Martin, S., Place, N., & Grossman, P. (2009). Complex interactions in student teaching: Lost opportunities for learning. *Journal of Teacher Education, 60*(3), 304-322.

Zeichner, K. (2010). Rethinking the connections between campus courses and field experiences in college-and university-based teacher education. *Journal of Teacher Education, 61*(1), 89.

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