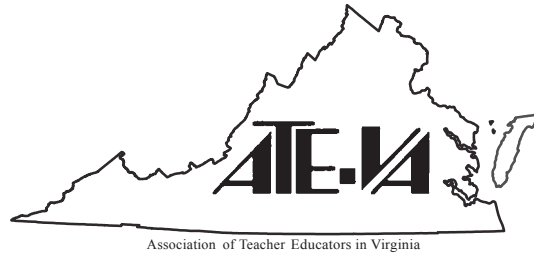# The Teacher Educators' Journal

Association of Teacher Educators in Virginia

A Journal of the Association of Teacher Educators Virginia

Spring 2016
Volume 9

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The Teacher Educators' Journal

Published by the Association of Teacher Educators –Virginia

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Artisans, Architects, and Apprentices: Valuing the Craft of Teacher Education

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As teacher education faculty, we are both artisans and architects. As artisans, it is not only our products that enrich us; it is the art of the craft itself that shapes our work. An artisan is valued for the creative endeavor, and not solely the masterpiece. In turn, we ask that our apprentices consider the role of inspiration and motivation as being integral in their teacher preparation experiences. We are also architects, building the content and pedagogical foundations with which these apprentices will enter the field. Unlike artisans who are regarded for the process of their work, architects tend to be evaluated solely for the completed product. Communities and PK-12 schools will always assess us in our role as architects, much more so than as artisans, but the integration of the two provides a more telling picture of how our discipline truly operates.

In the field of teacher preparation, we find ourselves measuring success through outcomes of what our candidates and completers are able to do. What assessments have they passed? What tools are in their curricular and pedagogical arsenal? How successful are they in their fieldwork, in terms of engaging students and using assessment to guide instructional practice? How do their PK-12 students perform on standardized and curriculum-based measures? While the emphasis on what these novices can *do* is certainly an important piece in establishing "what works," it is important to also consider how these novices *think*.

In contemplating the heart of teacher education, I am not convinced that we must evaluate our programs and curricula solely on the *products* of learning; we must also

reflect on the critical importance of the *process* of learning. How are we, as teacher educators, elevating the importance of the profession of teaching such that we hold reverence for the necessary ability of our pre-service teachers to think critically, analyze effectively, reflect continuously, and engage as ethical and purposeful practitioners? These measures of success are more challenging to evaluate, and in terms of our accrediting agencies, are seemingly unimportant in measuring the quality of a teacher preparation program.

While we can provide the mass quantities of outcome data needed for our external evaluators, "what works" in teacher education is preparing candidates through liberal arts experiences, rich coursework in social foundations of education, emphasizing inquiry-based methodology, and ensuring supporting culminating fieldwork. Through these approaches, our programs equip students to enter the vocation as critical and creative thinkers, engaging their talent and passion through reflection and ethical practice.

Though accreditation standards and demands of outside groups strive to determine if a teacher education program is preparing candidates adequately, these standards can seem dismissive of the direct role of the process of learning and how we prepare teachers who are *thinkers* and *reflectors*. The evidence we provide to these bodies, though rich in demonstrating quality outcomes, is solely focused on product and performance (CAEP, 2013; CCSSO, 2011). Through evaluating, and in most cases quantifying, observable behaviors and tangible outcomes of the novice and his or her students, we are most certainly able to directly measure many aspects of teacher effectiveness.

There is no argument that a teacher should be evaluated on his or her ability to

apply best practices to successfully impact learning of diverse students (CAEP, 2013). Our programs can, and certainly should, emphasize the critical importance of content knowledge and pedagogical expertise. Additionally, we equip our students with the tools to know how to measure the learning progress of all learners, to ensure that their practices are effective. It is imperative that we continue to focus on outcome-based measures to evaluate "what works," but not to the exclusion of less tangible measures that are deeply embedded in the process of training and developing quality teachers. Evaluating and acknowledging the *journey* of the preparation experience is arguably just as important in the shaping of a quality teacher (Lederhouse, 2014). Just as teacher educators are artisans as well as architects, it is our hope that these apprentices leaving our programs will value the journey that they have traveled and the craft that they are ever-refining in their development as novice teachers.

A Core Curriculum in the Liberal Arts is Integral in Teacher Preparation

While many teacher preparation programs are housed within liberal arts institutions, there is often a perceived disconnect between the true purpose of a liberal arts education and the fundamental goals of a vocational training program. Perhaps this would hold some truth if teacher education was viewed solely as an employment training endeavor, though I would certainly argue that our work is much broader and deeper as we prepare effective practitioners for the field. Beyer, Feinberg, Pagano, & Whitson (1989) note that viewing our role in teacher education as simply *training*, as opposed to *education*, "reflects the view that teachers are only technicians or managers rather than morally engaged people" (p. 131).

Dismissing teacher preparation as auxiliary to the mission of a liberal arts

institution is ignorant in its assumptions that our programs are simply exiting students with a product- and delivery-based approach to teaching and learning, to the exclusion of honoring the framework of the liberal arts as a critical foundation. To the contrary, liberal arts institutions have an opportunity to embrace their education departments, honoring the integration of pedagogy with the underlying philosophies of the overall mission. In liberal arts colleges, the importance of breadth and depth is emphasized, with the intent to develop students into creative, active learners who question, reflect, and analyze their discipline and the learning experiences themselves (Epstein, 2007). Certainly these are desirable skills for the novice teacher entering the field.

Clearly, a program need not utilize the liberal arts as its primary foundation for educator preparation, but it seems contrary to the vocation to undermine the values inherent in a liberal arts background. If liberal education centers on the notion of preparing individuals to experience an enriched life through developing skills and values that honor independent critical thinking, leadership, social justice, and integration of those skills through actions, surely such an education is best suited to align with our discipline. In reference to those who may question the connection, Lederhouse (2014) notes that "rather than regarding liberal arts education as independent of teacher preparation, they will come to see it as an indispensable means to achieve it" (p. 13).

As it relates to preparing elementary school teachers specifically, many institutions, including my own, offer a broad liberal arts major targeted at providing the candidates with a course of study that not only aligns with licensure requirements, but also demonstrates value for the liberal arts as a critical foundation.

Through extensive coursework in core content areas, including literature, history, mathematics, sciences, arts and humanities, teacher education students participate in an enriching curriculum that equips them for their profession while exploring these other disciplines in the context of humanity, social justice, and critical thinking. Roose (2013) notes that since each subject has its own vocabulary, philosophy, and underlying assumptions, pre-service teachers become enriched in how they might approach teaching and learning through these different disciplinary lenses.

So, how do we measure the value of a liberal arts education in the preparation of a novice teacher? This remains a concept difficult to measure, though with creative planning, a program can devise tools and activities that allow the candidate to synthesize pedagogy and practice within the context of scholarship and inquiry in the liberal arts. At Mary Baldwin College, our faculty members have worked collaboratively over time to develop and implement a culminating exercise for our teacher education students that targets this exact objective. We have chosen to approach this through the requirement of a *reflective synthesis* paper. This comprehensive student assessment provides the candidate with the opportunity to demonstrate, in written form, his or her integrated analysis of three key components of the teacher preparation experience: research and scholarship, fieldwork, and coursework. Through this assignment, evaluators are able to glean each student's ability to reflect on the role that content and pedagogical coursework (in the context of a liberal arts focus) have played in the student teaching experience, and how the body of professional literature in turn, supports these revelations. This culminating experience also allows our faculty to examine each student's understanding of applying inquiry-based methodologies, and the student's underlying approach to

critically examining social and foundational issues of educational practice.

A Substantive Exploration of Social Foundations of Education Must be Emphasized

As the demographics within our schools shift, we find ourselves faced with an escalating need to prepare teachers who are fully confident and competent to serve all varieties of learners. Through a multitude of courses and learning experiences, teacher educators can strive to effectively address pedagogy and content through a lens that is not only interdisciplinary, but that also considers education within a broader context. For many of our teacher education students, their first exposure to the field during their collegiate years will be in a course that addresses social, political, and philosophical foundations of education. While often a student's first course related to the vocation of teaching, I do find myself uncomfortable with the notion that these courses can be referred to as introductory or primary. I worry that designating courses in social foundations as introductory can undermine their importance as critical in the preparation of teachers.

While designated often as 100-level courses (at the undergraduate level), courses in educational foundations are paramount and critical to the development of quality teachers. Hartlep, Porfilio, Otto, and O'Brien (2015) argue that this core coursework encourages students to recognize social and political injustices and decisions that should be questioned, and to acknowledge that culture, policy, and tradition have a direct impact on teachers, learners, families, and communities as a whole. With a focus on social justice and equity among students, the field of Social Foundations asserts that until educators, legislators, and communities collaborate to ensure fair and equitable education, excellence cannot be achieved (Fenstermacher, 2007).

Though the Commonwealth of Virginia has held steadfast to its requirement that teacher education candidates complete coursework in foundations, it seems that other states are questioning the imposition of such a course as taking up valuable time that could better be spent focusing solely on pedagogy (Harlep et al, 2015). As some teacher education programs find themselves in a push to expedite the credentialing process and eliminate the excess "fluff" from preparation programs, coursework in foundations seems to be the first to be considered for removal from the curriculum (Friedrich, 2014). This marginalization of the importance of social foundations in preparing quality teachers reinforces the notion that teachers are increasingly being trained as technicians rather than thinkers.

I distinctly remember my own experience as a collegiate learner in a social foundations education course. My expectations were few; I anticipated that I might learn a little regarding how educational practice had changed over time in this country, and that I might learn a little about legislation and policy that shaped the practice of teaching. My peers who had taken it in the semesters that preceded me did not regard the course as rigorous, and my approach was that this class was simply a hoop I needed to jump through to get closer to student teaching. I did not expect my experience in a course on social foundations to be truly transformational in shaping my life as a teacher and as a life-long learner.

My own PK-12 student experiences were particularly unique. As a child of American diplomats stationed abroad, most of my schooling was in English-speaking international schools, the exception being my high school years in a parochial school outside of Washington DC. Until I entered my foundations of education course my second semester sophomore year, I was completely naïve to the inequity in our

nation's public schools. When given the challenge of reflecting on my own ideas and attitudes toward race, gender, poverty, and privilege, I came to understand the harm of deficit-based notions of the experiences and circumstances of others. As Hartlep et al (2015) argue, these courses connect teacher education students to the experiences beyond classroom walls that shape the learning of children, while pushing candidates to reflect on their moral and ethical duty to appropriately address diverse students in a challenging context. This was certainly my own experience.

Dismissing courses in social foundations as solely an introduction to the field is in direct contrast to the deep and rich purpose that a well-constructed foundations course can serve in preparing thoughtful, reflective, empathetic teachers who strive to be ethical and caring practitioners in a world where each learner does not enter the classroom with an equal, or even equitable, experience. I do not propose that foundational coursework be moved to later in the curriculum. Rather, it is important that these courses hold esteemed value in their departments, and that faculty teaching other pedagogical coursework along the way embed similar considerations and criticisms within their instructional framework. In teaching methods coursework, for example, instructors should focus on teaching research-based instructional practices while also questioning the idea that certain methods or strategies will work under all circumstances with all learners. Our candidates should think critically of strategies, even those for which there is empirical evidence. Only through questioning and analytic thought can an effective teacher make instructional decisions that may be most appropriate for the learners and situation at hand.

Modeling and Teaching Inquiry-Based Practices is Essential

In my practice as a teacher, administrator, and teacher educator, I continually

circle back to inquiry-based teaching as a preferred model for pedagogical practice. Since inquiry-based instructional methods provide students with richer opportunities for owning the learning process in a unique way, we allow learners of all varieties to make-sense of their own educational experiences, developing into critical thinkers who can demonstrate conceptual understandings and connect classroom activities to real world applications. Also of critical importance in a learning setting that values inquiry-based practices, is a reflective teacher who values and honors the ability of students to generate and follow-through on experiences, while drawing conclusions with facilitation and guidance (Magee & Flessner, 2012). This confidence in the student as constructor of his or her own learning requires that the teacher shift away from deficit-based notions of student differences, perhaps reflecting on how his or her social foundations coursework encouraged a focus on equitable education and consideration for what individual students bring to the class, as opposed to what they do not bring.

Teaching pre-service teachers to implement an inquiry-focused methodology is not without its challenges. In conversations with practicing teachers, I often hear that the stagnancy of their pacing guides and curriculum makes planning inquiry activities, in any subject matter, challenging. In working with the apprentices about to enter the field, I would like to challenge teacher educators to fill the role of mentor to the apprentice by not only teaching the methodology, but also by modeling it in pedagogical coursework. This notion of "practicing what we preach" is critical in our discipline to obtain buy-in and motivation for implementing these strategies in the classroom.

It is necessary and important to view inquiry learning and teaching as a

continuum and not a fixed target. The amount of autonomy and independence for obtaining mastery given to any particular student can vary to accommodate the learning objective, the student, and resources available (Zion & Mendelovici, 2012). Our methods courses for teacher candidates should walk students through the decision-making process as it relates to choosing lessons most conducive to structured, guided, or open inquiry. In doing so, the teacher educator should shape his or her instructional practices to engage candidates in active learning exercises that utilize each of these points along the inquiry continuum. Through teaching these candidates with examples of inquiry-based practices, we create a learning community that enhances the overall success of the educational process (Zion & Slezak, 2005). Modeling this learning community will, in turn, help to foster collaborative teachers who are more likely to challenge their future students with learning activities and goals that stimulate passion for discovery, ownership of learning, and skills in metacognitive awareness.

While the concept of academic freedom places limits on methodology that might otherwise be required for faculty teaching pedagogical coursework, it is certainly within achievable means for an education department, college, or school, to otherwise choose to adopt an underlying philosophy or vision that places value on inquiry teaching and learning practices. Instructors who commit to this approach demonstrate the ability to openly and critically reflect, and appear to be very intentional in the planning and delivery of guided instructional experiences that enhance the learning of students (Vajoczki, Watt, & Vine, 2011). Would we not want this to be the very model that we set for pre-service teachers?

There is certainly no doubt that successful P-12 inquiry classrooms require

effective behavior management practices, a community of trust, and high (yet differentiated) expectations on the part of both the teacher and the learners themselves (Quigley, Marshall, Deaton, Cook, & Padilla, 2011). Some of these skills will develop with experience and practice, but without explicit instruction and modeling, novices do not receive the guidance they need to flourish in establishing learning communities that are conducive to rich inquiry opportunities. We want the teachers that exit our programs to have an observable disposition toward reflection, inquiry, and analysis (Darling-Hammond, 2006).

Fieldwork Matters

There is little doubt that higher education learning experiences of pre-service teachers make up only a portion of the critical, overall, teacher education experience. As teacher preparation programs, we all rely on our PK-12 partners to host these candidates for fieldwork experiences throughout their journey. Though our accrediting body (CAEP, 2013) requires evidence of partnership and collaboration in obtaining these mentoring placements, and in training the hosts appropriately, we are often left at the whim of school divisions to simply find a teacher who is willing to take on a novice for up to a semester. Fortunately, many of these cooperating teachers are energized and renewed by the opportunity and serve as highly effective mentors and outstanding models for our students; occasionally, however, there are unfortunate exceptions.

Does a less-than-ideal fieldwork placement hamper the ability of a novice to develop and thrive and enter the field with a level of confidence we might expect for a first-year teacher? It could, certainly, but that hinges on the resilience of the candidate and his or her ability to reflect on the impact of the experience, positive or

negative, on personal growth, development, and readiness for the vocation. Not all pre-service teachers can do this with minimal support, so these more challenging placements rely heavily on the expertise, guidance, and mentoring (and occasionally intervention) of the college-provided student teaching supervisor.

Careful monitoring of candidates by the college supervisor and cooperating teacher is essential to observe and provide support, as related to skills and dispositions critical to the profession that might not be as apparent to a professor of an education course (Kincaid & Keiser, 2014). The National Council for Teacher Quality (2011) has emphasized the critical nature of teacher education programs focusing on the selection of only exemplary cooperating teachers, suggesting that only teachers who are in the top quartile, based on their students' performance, be given the privilege and responsibility of hosting student teachers. While grounded in principle, we are not realistically at this point given the state of current partnerships and high demand for placements. We are bound to the placement decisions often made by human resource administrators, and occasionally principals, in selecting veterans to host our novices.

I am discouraged when I hear stories of teachers in the field (of high quality or otherwise) requesting to host a student teacher solely because they need recertification points, not because they understand the value of such an important role in the development of a new teacher. We are fortunate that many (sadly, not all) of the teachers who host our students are clinical faculty who have undergone training through a consortium of regional teacher education programs, school divisions, and teacher representatives. Unfortunately, the demand for placements exceeds the capacity of the individuals able to go through this detailed and

comprehensive training. Cooperating teachers are undercompensated, and their role does not hold the prestige that it ought to given its importance.

When it comes to student teaching, I often think that we should be more purposeful (to the extent that we can, given placement limitations we already face) in selecting placements where our teacher education candidates will have opportunities to co-teach or collaborate with another teacher or related service provider. For example, it would be valuable for a student teacher in a fourth grade general education setting to experience co-teaching with a special educator, or collaborating with a specialist in English Language Learners, to meet the unique needs of a particular group of students. Special education candidates would benefit from opportunities to supervise and coordinate paraprofessionals, a responsibility they may be tasked with once "on the job."

During my initial student teaching experience, I was placed with a geography teacher at a school in Newport News, Virginia. On my first day, I was informed that I would be expected to co-teach with a special education teacher. At no time in my pedagogical training had I been taught about co-teaching and I went in with the foolish assumption that this meant I was to have a "helper" in my class. Through an experience with a remarkable co-teaching team, I observed and learned how to truly co-teach with shared responsibility for planning, delivery, and assessment. It was that experience in my teacher education journey that eventually led me to pursue a career in special education, eternally an advocate for collaboration, co-teaching, and instructional partnerships. It was not until my preparation as a special education teacher that I had any formal training at all in co-teaching. Our completers, particularly in general education fields, sometimes report that they wish they had

learned more in their preparation program about working with adults, not only the PK-12 students. High quality, supportive fieldwork may be an area where we can strive to provide candidates with these collaboration opportunities.

The student teaching experience, as the culmination of preparation, allows teacher education programs to delve deeper into the evaluation of a candidate's dispositions, personality traits, and emotions as related to entering this vocation. As gate-builders and gate-keepers, our responsibility is to the field and to the candidate, but it is also to the PK-12 students with whom our novices are placed (Ripski, LoCasale-Crouch, & Decker, 2011). Successful completion of fieldwork, in what is hopefully a nurturing and supportive environment, is the final key that allows new teachers to enter the vocation.

Concluding Thoughts

Preparing a quality teacher is not easy work. While some candidates come to our programs with a disposition that sets them apart as "naturals," there is a distinctly important role for teacher preparation for these students, and also for those who are just beginning to get their feet wet with the idea of wanting to be a teacher. As teacher educators, we are faced with external bodies that demand solely product-based evidence to evaluate our effectiveness, rather than a more global consideration of how our students think, process, and analyze to make decisions. We are occasionally seen by our peers in the liberal arts disciplines as being auxiliary to the primary mission of the institution, as simply a "cash cow" and a technical program for career preparation. We are challenged by efforts to reduce the length of the route to licensure for candidates while improving outcomes, compounded by limited resources. We are critiqued for not sending candidates into the field with

metaphorical crystal balls, magic wands, and fairy dust to be able to instantly captivate their students despite child-specific situations and circumstances that are beyond their control.

The liberal arts are integral in preparing teachers for any and every level and discipline. There is considerable alignment between the goals of preparing any collegian with a liberal arts foundation and in preparing teachers. Coursework in social, political, and philosophical foundations of education is paramount to encourage pre-service teachers to reflect on their own experiences, and societal issues to approach their vocation with a lens that emphasizes ethical practice and social justice.

Effective teachers are best prepared with a focus on inquiry-based methodology in a collaborative context. We present our candidates with a myriad of best practices and tools for their instructional toolbox, but we also prepare them to engage their PK-12 students in inquiry-based learning.

Supportive and dynamic field placements are critical in the development of candidates who have a richer understanding of how to apply what they have learned and make sound instructional decisions that improve learning for all students. Through a combination of practica and the culminating student teaching experience, our students have an opportunity, under supervision, to implement the instructional practices they have learned about in their coursework with actual PK-12 diverse learners.

What works in teacher education is not new, earth-shattering strategies or reform; it is the necessity of viewing our field as more than a technical preparation program, and advocating that others do the same. We must hold value to the work that we do

in the classroom, through fieldwork, in mentoring or advising, and in collaborating with colleagues. As teacher educators, we have an enormous responsibility to schools, communities, and learners. Through self-study and program analysis, we can each reflect on our own institution's needed areas of growth in improving our efforts to produce quality teachers. While we may refine curricula and standards accordingly, the heart of the matter does not change.

We are artisans, modeling and teaching our craft to our apprentices. We are architects, refining our plans as we go and implementing the sound science of teaching and learning while building and elevating the profession. As artisans and architects, new tools, technologies, research, and experiences influence our products over time, but we remain committed to our discipline. We must regard both our roles as important and valuable in the development of liberally-educated, socially-conscious, inquiry-minded apprentices.

References

Beyer, L. E., Feinberg, W., Pagano, J. A., & Whitson, J. A. (1989). *Preparing teachers as professionals: The role of educational studies and other liberal disciplines.* New York, NY: Teachers College Press.

Council for the Accreditation of Educator Preparation [CAEP]. (2013). *CAEP Accreditation Standards.* Washington, DC: Author.

Council of Chief State School Officers [CCSSO]. (2011, April). *Interstate Teacher Assessment and Support Consortium (InTASC) Model Core Teaching Standards: A Resource for State Dialogue.* Washington, DC: Author.

Darling-Hammond, L. (2006). *Powerful teacher education: Lessons from exemplary*

programs. San Francisco, CA: Jossey-Bass.

Eptein, I. (2007). Standardization and its discontents: The standards movement and

teacher education in the liberal arts college environment. In C. Bjork, D.K.

Johnston, & H., Ross (Eds.), *Taking teaching seriously: How liberal arts colleges*

prepare teachers to meet today's educational challenges in schools (pp. 31-49).

Boulder: CO: Paradigm.

Fenstermacher, G. D. (2007). Deriving a pedagogy of educational foundations. *The*

New Educator, 3(2), 171-178.

Friedrich, D. (2014). We brought in on ourselves: University-based teacher education

and the emergence of boot-camp-style routes to teacher certification. *Education*

Policy Analysis Archives, 22(2), 1-18.

Harlep, N. D., Porfilio, B. J., Otto, S., & O'Brien, K. (2015). What we stand for not

against: Presenting our teachers education colleagues with the case for social

foundations in PK-12 teacher preparation programs. *Educational Foundations,*

28(1-4), 135-150.

Kincaid, M, & Keiser, N. (2014). Using a monitoring process to effectively assist

struggling pre-service teacher candidates. *Critical Questions in Education, 5*(2),

93-111.

Lederhouse, J. N. (2014, Fall). Teaching and leading for human flourishing: Creating

a liberal arts framework for teacher preparation. *The Association of Independent*

Liberal Arts Colleges for Teacher Education [AILACTE] Journal, 11(1), 1-17.

Magee, P. A., & Flessner, R. (2012). Collaborating to improve inquiry-based

teaching in elementary science and mathematics methods courses. *Science*

Education International, 23(4), 353-363.

National Council on Teacher Quality. (2011). *Student teaching in the United States: Executive summary.* Retrieved from http://www.nctq.org/edschoolreports/studentteaching.

Quigley, C., Marshal, J. C., Deaton, C. M., Cook, M. P., & Padilla, M. (2011). Challenges to inquiry teaching and suggestions for how to meet them. *Science Educator, 20*(1), 55-61.

Ripski, M. B., LoCasale-Crouch, J., & Decker, L. (2011). Pre-service teachers: Dispositional traits, emotional states, and quality of teacher-student interactions. *Teacher Education Quarterly, 38*(2), 77-96.

Roose, D. (2013, Fall). Beyond small and nurturing: Tapping the potential of liberal arts teacher education. *The Association of Independent Liberal Arts Colleges for Teacher Education [AILACTE] Journal, 10*(1), 1-18.

Zion, M. & Mendelovici, R. (2012). Moving from structured to open inquiry: Challenges and limits. *Science Education International, 23*(4), 383-399.

Zion, M. & Slezak, M. (2005). It takes two to tango: In dynamic inquiry, the self-directed student acts in association with the facilitating teacher. *Teaching and Teacher Education, 21*(7), 875-894.

Teachers' Basic Knowledge of Reading Instruction:
Insights from a Teacher Preparation Program

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Abstract

Effective reading instruction is essential for all students, and especially students with disabilities; however, studies have indicated that both pre-service and in-service teachers lack an adequate knowledge of reading. To ensure adequate teacher knowledge, teacher preparation reform advocates suggest purposeful alignment of teacher preparation curricula, candidate competency standards, and teaching licensure requirements. Instructors in the participating special education program have followed this recommendation by aligning the curriculum of a required developmental reading course to the state's teaching competencies for reading, and assessing the teaching and learning of these competencies through the administration of the Common Assessment of Special Education Teachers-Reading (CAST-R) across all course sections. Findings of this study show that teacher candidate performance on the CAST-R is an accurate predictor of performance on the state test of reading instruction knowledge required for teaching licensure in special education. Implications are discussed.

Effective reading instruction from knowledgeable teachers is essential because

children who struggle with reading in early elementary grades are more likely to

struggle throughout school (Mather, Bos, & Babur, 2001). Unfortunately, recent

National Assessment of Education Progress (NAEP) data indicate that over 60% of fourth-grade students with disabilities are reading below a basic reading level (National Center for Education Statistics, 2011). A growing body of research indicates that there is a direct relationship between teachers' knowledge and skills about effective literacy instruction and student outcomes (e.g., Darling-Hammond, 2000; McCombes-Tolis & Feinn, 2008; Piasta, Conner, Fishman, & Morrison, 2009). Research suggests that teachers influence student academic growth more than any other single factor, including families, neighborhoods, and schools (Reutzel et al., 2011; Rowan, Correnti, & Miller, 2002). Unfortunately, accumulating research indicates that both pre-service and in-service teachers lack adequate knowledge needed for effective instruction for struggling readers.

A landmark survey completed by 89 in-service teachers revealed a lack of sufficient knowledge about spoken and written language structures, a critical component for teaching struggling readers and readers with learning disabilities (Moats, 1994). Other studies have documented deficiencies in teachers' knowledge about language and literacy development and essential components of reading instruction (e.g., McCombes-Tolis & Feinn, 2008; Washburn, Joshi, & Binks-Cantrell, 2011). To illustrate, a multiple-choice assessment of essential components of reading instruction pertinent for Kindergarten through third-grade was administered to over 2,000 pre-service teachers from 99 universities (Salinger et al., 2010). Participating teachers only answered 57% of items correctly with marked weaknesses on the alphabetic subscale (i.e., information on phonemic awareness and phonics). In 2001, Mather and colleagues surveyed 293 pre-service and 131 in-service teachers about their perceptions and knowledge about teaching reading.

While in-service teachers displayed more knowledge (68%) than pre-service teachers (50%), both groups had insufficient knowledge about concepts related to English language structure, phonics terminology, and language structure terminology.

Research has shown that both pre-service and practicing teachers are often not able to accurately gauge their understanding of critical concepts related to reading instruction. Many teachers overestimate the level of their knowledge (Cunningham, Perry, Stanovich, & Stanovich, 2004; Piasta et al., 2009). Spear-Swerling, Brucker, and Alfano (2005) examined self-perceptions and disciplinary reading instruction knowledge of teachers in a graduate program in relation to their teaching experience and course preparation. Although "high-background" teachers (i.e., several years of experience, teaching credentials, considerable graduate coursework) perceived themselves as more knowledgeable and outperformed "low-background" teachers (i.e., less than a year of experience, obtaining initial licensure) on all five knowledge tasks (general knowledge, morpheme counting, graphophonemic segmentation, syllable types, irregular words), their actual performance on knowledge tasks fell well below expected levels

University Preparation of Teachers of Reading

Learning to teach reading begins with effective teacher preparation within university programs. Although teacher preparation programs are vastly different, disconcerting reports suggest a lack of relevant information in course textbooks (Joshi, Binks, Graham et al., 2009) and a lack of conceptual knowledge of language across faculty who prepare future teachers of reading (Joshi, Binks, Hougen et al., 2009). Joshi, Binks, Graham et al. (2009) conducted a review of 17 university

textbooks to determine the extent to which the texts devoted accurate and detailed components of reading instruction recommended by the National Reading Panel (NRP, 2000). Findings varied across textbooks, but in general, phonemic awareness, phonics, and fluency were given less attention than vocabulary and comprehension, which is particularly discouraging for the preparation of educators working with students with reading difficulties.

Compounding the lack of focus on foundational aspects of reading in texts is the lack of understanding of language concepts of reading across faculty members. In Joshi, Binks, Hougen et al.'s (2009) investigation, 78 university instructors were asked to define and apply language constructs related to reading (e.g., define *phoneme*; identify the number of speech sounds in box), and answer questions related to vocabulary, comprehension, and meta-cognition. Percentages of correct answers by instructors were low across categories: phonology 78.97%, phonics 56.47%, morphology 34.36%, and comprehension 57.5%. Although instructors scored relatively higher on phonology items, researchers noted that 54% of instructors could not recognize the definition of *phonemic awareness*. While instructors performed well in areas of counting syllables, defining some terms (e.g., *phoneme)*, and recognizing initial sounds in words, they had moderate difficulty with open/closed syllables and defining other terms (e.g., *phonemic awareness, morpheme*) and severe weaknesses in identifying speech sounds within words and identifying patterns that govern the use of the letters *c* and *k* in particular positions in a word.

Although teacher preparation and certification/licensure are the strongest correlates of student reading achievement (Darling-Hammond, 2000), there continues to be a lack of alignment of teacher preparation programs to state

certification/licensure requirements. For this reason, teacher preparation reform advocates suggest purposeful alignment of teacher preparation curricula, candidate competency standards, and licensing requirements (Moats, 1999). To accomplish this, states need to identify essential teacher competencies required for effective reading instruction. These competencies can then be assessed through licensure exams, and teacher preparation programs can systematically prepare teacher candidates to meet those competency standards (McCombes-Tolis & Feinn, 2008). In response to reports that teachers lack adequate knowledge of reading instruction, a few states (e.g., California, Massachusetts) have developed separate tests of high level, evidence-based reading instructional knowledge that teachers must pass to obtain licensure (Goodman, Arbona, & de Ramirez, 2008; Stotsky, 2009). For example, prior to obtaining licensure in Virginia, prospective elementary and special education teachers are required to pass a standardized statewide exam designed to assess whether these teachers have the knowledge skills, and abilities needed for entry into a profession where effective reading instruction is essential. This exam was the Virginia Reading Assessment for Elementary and Special Education Teachers (VRA) until July 2011, at which time there was a vendor change for administration of the assessment. A committee of stakeholders from the state with expertise in reading was formed to work with the new vendor to create a new assessment, renamed the Elementary and Special Education Reading for Virginia Educators (RVE) exam, using identical test blueprint specifications for content that had been assessed in the VRA: *Assessment and Diagnostic Teaching, Oral Language and Oral Communication, Reading Development,* and *Writing and Research*.

A Common Assessment for Special Education Teachers: Reading (CAST-R)

Since it is widely accepted that teacher knowledge and skill impacts student performance, Reutzel et al. (2011) assert, "reliable and valid tests of teacher knowledge about reading and writing instruction would assist literacy educators in determining what is most important to teach in teacher education programs and in literacy courses" (p. 206). Such an assessment of teacher knowledge of reading was investigated in the current study. Course leads (professors who oversee course curriculum) at the participating university developed a common assessment called the Common Assessment for Special Education Teachers: Reading (CAST-R). The CAST-R was administered as a final exam across all sections of the special education Language Development and Reading course. This assessment was systematically constructed with items directly targeting content related to all four domains within the state adopted blueprint of evidence-based best practices in reading instruction.

The purpose of the current study was to determine whether pre-service and in-service teachers were knowledgeable about the essential content and skills needed to teach reading effectively. To accomplish this, CAST-R cut scores were determined and used to predict student performance on the VRA. Specifically, the following research questions were evaluated:

- Does students' performance on the CAST-R predict VRA performance?
- What is the relative importance of students' performance on CAST-R domains in the prediction of VRA performance?
- What are the cutting values on CAST-R for prediction of performance on the VRA: (a) failure, (b) 50% chance for success/pass, and (c) 100% chance for success?

In addition, student CAST-R performance was used to determine if individual student characteristics put groups of teacher candidates at-risk for deficiencies in basic knowledge of reading instruction with the following research questions:

- Do student-related variables predict student performance on the CAST-R?
- Do these variables predict student performance on the CAST-R sub-domains?

Method

Setting

This study took place in a university special education program in Virginia consisting of approximately 700 students. Students take traditional on-campus courses (graduate or undergraduate students) or off-campus cohort courses. Cohort students include practicing special education teachers (often with provisional teaching licenses), general education teachers, instructional assistants, or other educators seeking special education licensure. Established off-campus cohorts consist of students employed in surrounding school districts and tend to have larger class sizes to accommodate the needs of the participating school systems. Both on-campus and off-campus courses are provided with the same curriculum and required hours of instruction; however, semester length varies from 5 to 8 weeks in summer, and 10 to 15 weeks in academic semesters. All students in the special education licensure program are required to take the Language Development and Reading course (that addresses critical content knowledge for teaching reading) and pass the VRA prior to applying for their teaching internship.

Participants

Participants were 267 students enrolled in undergraduate (*n* = 24) or graduate (*n* = 243) sections of the course. Course sections were on-campus undergraduate or graduate levels (40.4%), or graduate level off-campus (59.6%). Over half of on-campus students and 97% of off-campus students were employed in public schools; however, about three-fourths had less than three years of educational experience. Average class size of on-campus sections was 16.75 (range 8 to 32) and off-campus sections was 20 (range 8 to 33), and classes were taught by full-time (67%) or part-time (33%) instructors. Average age of participants was 30.48 years (range 20 to 65). Participants were predominantly female (79.8%) and ethnicities of participants were: Caucasian (79%), African-American (8.2%), Hispanic (2.6%), Native-American (2.2%), Asian-American (2.2%), or other ethnicities (8.2%). See Table 1 for additional descriptive information.

Measures

VRA. The VRA was a test of basic competency in teaching reading that was administered and scored by the state of Virginia during the period of data collection. Elementary and special education teachers were required to take and pass this test (with a score ≥235) before acquiring a teaching license. Four broad domains were assessed: (a) Domain I: Assessment and Diagnostic Teaching (19-20% of items), (b) Domain II: Oral Language and Oral Communication (19-20% of items), (c) Domain III: Reading Development (39-40% of items), and (d) Domain IV: Writing and Research (17-20% of items). The format for the 3-hour test was approximately 80% multiple-choice (90 items) and 20% constructed-response (four prompts) items.

Multiple-choice items (1 point each) required the test-taker to recall factual information, to think critically, evaluate, and to apply knowledge to scenarios. Constructed-response items (3 points each) measured the extent to which the test-taker demonstrated knowledge and skills important for delivering effective reading instruction within each domain.

CAST-R. The CAST-R had the same domains, percentage of items in each domain, question formatting, and scoring criteria as the VRA. The test was administered as a common assessment in all sections of the course as a final exam beginning in spring 2010. It had 88 multiple-choice and four constructed-response items that addressed VRA content (i.e., state blueprint of minimum competencies for teaching reading). The test was designed to be completed within a 3-hour time frame. For the sample data in this study, Cronbach's alpha estimate of internal consistency reliability was .78.

The CAST-R was collaboratively developed by three researchers with doctoral degrees in special education with an average of 6 years of university teaching experience and who collectively had expertise in elementary and secondary reading and language development. CAST-R items, proportionate to the number of VRA items within each domain, were created using VRA test blueprint guide (www.va.nesinc.com/PDFS/VE_fld001_**testblueprint**.pdf). Specifically, one researcher developed an initial draft of a research question, and then the other two researchers evaluated whether the content of the developed item was important for the entry level teacher, that the question was clearly written, and that there was a single best answer to the question. If an item did not meet these criteria, the researchers revised the item to ensure validity of each question for addressing the

intended sub-domain on the state blueprint.

Background information. Participants self-reported information related to demographics (e.g., age, gender, ethnicity), teaching credentials and experiences (e.g., licensure, years teaching), and educational level (e.g., undergraduate, graduate).

Procedures

Data collection. Prior to CAST-R administration, students were asked to give consent and to provide background information. Researchers obtained student VRA scores reported to the university by the state. Students in all sections of the course took the CAST-R as their final exam. Depending on the availability of computers at the class location, the CAST-R was administered either online or in a paper/pencil format.

Scoring. Tests were scored using SPSS syntax (online exams) or a scantron machine (paper exams). Two independent researchers scored each constructed response using the same 3-point scale rubric for the VRA, and the mean was calculated as the final score.

Results

Prediction of VRA Performance

A simple linear regression analysis was used to determine whether student performance on the CAST-R predicted performance on the VRA. Results indicated that the prediction of VRA scores from CAST-R scores was statistically significant, $F(1, 87) = 107.62$, $p < .001$. The coefficient of multiple determination in this prediction ($R^2 = 0.553$) indicates that 55.3% of the variance in VRA scores was

accounted for by the variance in CAST-R scores.

Next, a multiple linear regression analysis was conducted with VRA scores as the dependent variable and four independent variables represented by CAST-R domains. Under this regression model, the prediction of VRA scores was statistically significant, $F(4, 84) = 27.09$, $p < .001$. The coefficient of multiple determination ($R^2 = 0.563$) indicates that 56.3% of the variance in VRA scores was accounted for by variance in scores for all four CAST-R domains. However, a statistically significant unique contribution to the prediction of VRA scores (.05 level of significance) was found only for *Reading Development* ($p < .001$). Specifically, the squared part-correlation between VRA scores and *Reading Development*, $(0.319)^2 = 0.1018$, indicates that 10.18% of the variance in VRA scores is uniquely explained by *Reading Development* scores, controlling for the prediction contribution of the other three subscales.

CAST-R Cut Scores

CAST-R cut scores for prediction of failure on the VRA were determined by computing CAST-R scores for which the conditional distributions of VRA scores in their prediction from CAST-R scores for (a) failing, (b) 50% chance of passing, and (c) passing. The regression equation for prediction of VRA from CAST-R is $\widehat{VRA} = 1.797(\text{CAST-R}) + 120.675$, with standard error of estimate equal to 13.103. The three conditional distributions at the targeted cutting scores are depicted in Figure 1, with their range determined by taking three times the standard error of estimate (3 x 13.103 = 39.309) above and below the predicted VRA values. For example, for students with CAST-R=42, the predicted VRA scores is 196, with their

actual scores ranging from 157-235, as obtained from 196, ±39.309. Table 2 provides

the distribution of predicted levels VRA success across demographic variables.

Student Level Variables that Influence CAST-R Performance

To determine whether student-related variables predict student performance on

the CAST-R, five multiple regression analyses were used with the dependent variable

being the student score on the CAST-R and its four domains, respectively, and the

independent variables being four demographic variables: class size, gender, ethnicity,

and location. Additional demographic variables were initially considered as potential

independent variables, but they were not used as their correlations with the

dependent variables were not statistically significant, namely: age, certification,

public school teaching experience, years teaching, general curriculum, course

section, course length, and instructor.

The results from the five multiple regression analyses are summarized in Table 3.

Class size, gender, ethnicity, and location provided statistically significant prediction

for each of the five dependent variables—the student scores on the CAST-R and its

four domains ($p<.001$)— explaining 21.3%, 13.2%, 10.4%, 18.9%, and 16.4% of the

respective variance of these dependent variables. Statistically significant unique

contributions to the predictions were provided by (a) *class size* and *gender* to the

prediction of CAST-R scores and each of its four domains, (b) *ethnicity* to the

prediction of CAST-R scores and two domains: Domain 1 and Domain 3, and (c)

location to the prediction of Domain 1. The magnitude of these unique contributions

to the prediction can be obtained by squaring the respective part-correlations reported

in Table 3. For example, the squared part correlation between class size and total

score on CAST-R, $(0.326)^2=0.1063$, indicates that 10.63% of the variance in CAST-

R scores is uniquely explained by class size (i.e., controlling for gender, ethnicity, and location). Clearly, class size is the relatively most important predictor, with the largest part-correlations with CAST-R scores and each of its four domains.

The positive regression coefficient for gender (in all five regression analyses) shows that females exceed males in predicted CAST-R scores and its four domains. Negative regression coefficients for ethnicity show that White students exceed the other ethnic groups in predicted scores on CAST-R and two domains: Domain 1 and Domain 3. Positive regression coefficients for class size in all five regression analyses suggest that predicted CAST-R scores and its four domains increase with the increase of class size, controlling for gender, ethnicity, and location. While this may contradict the common view that "the smaller the class size, the better," it should be noted that the magnitudes of the increase in the respective predicted CAST-R scores and its domains related to class size are relatively small and, one can say, practically negligible. Furthermore, classes that were school based were also consistently larger in size. Finally, the statistically significant positive regression coefficient for location in the prediction of Domain 1 indicates that, controlling for all other predictors, students taking the course in school based settings outperformed on-campus in predicted Domain 1 scores.

Discussion

Teacher preparation reform advocates have recommended that states create blueprints of effective reading practices and require that teacher licensure exams assess this knowledge, and that teacher preparation programs specifically address the content of the developed blueprints (e.g., McCombes-Tolis & Feinn, 2008). In

isolation, neither recommendation guarantees that demonstrated teacher knowledge will result in effective teaching and sustained use of evidence-based practices in the classroom. However, research has shown that, through teacher preparation, both general and special education teachers can increase knowledge of pedagogy which is necessary if effective instruction for students who struggle in reading is to be provided (Bos, Mather, Dickson, Podhajski, & Chard, 2001; McCutchen & Berninger, 1999).

Therefore, developing minimum competency standards for teaching reading and providing corresponding instruction within teacher preparation programs to address these standards are important steps in this process. Lead instructors in the participating special education program have not only aligned the curriculum of the reading development course with reading competencies in state blueprints and state licensure requirements in Virginia, but they are also assessing the teaching and learning of these competencies through the administration of the CAST-R across all sections of the course.

Teacher Knowledge of Reading Instruction

Some states are beginning to require that teachers not only pass tests of basic competency, but also tests that specifically measure their knowledge of reading instruction (Stotsky, 2009). An assessment during teacher preparation coursework that predicts later performance on the state exam of knowledge of reading instruction is important because it gives an indication of the likelihood that teacher candidates are prepared to fulfill basic teaching licensure requirements. More importantly, this type of assessment is a good benchmark for how teacher candidates and practicing

teachers working towards licensure are progressing toward meeting minimum competencies of knowledge needed to teach reading.

Without specific knowledge of reading instruction, teachers may "misinterpret assessments, choose inappropriate examples of words for instruction, provide unintentionally confusing instruction, or give inappropriate feedback to children's errors" (Spear-Swearling et al., 2005, pp. 267-268). As such, knowledge of literacy concepts is an essential pre-requisite for effective teaching in practicum experiences and employment (Moats, 1999; Piasta et al., 2009). Spear-Swearling and colleagues (2005) have suggested that assessing literacy related disciplinary knowledge as part of pre-service and in-service teacher preparation is an important step in addressing gaps in teachers' knowledge about reading instruction. Findings in the current study show that university student performance on a common assessment is an accurate predictor of performance on a state test of reading instruction knowledge required for teaching licensure.

Evaluating teacher candidate knowledge is not sufficient. This data must also be *used* to improve teacher preparation to teach reading. Because the CAST-R was administered as a common assessment across all sections of the developmental reading course, information obtained has provided lead instructors of the course with important information related to course improvement. After reviewing study outcomes, instructors have used information about student performance overall and on specific sub-domains to make specific improvements to the course such as: revising the custom course textbook, creating online learning modules to accompany the course, and targeting professional development activities for part-time instructors. For example, a series of four online training modules were developed to

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reinforce content included in the oral language and oral communication domain of the state reading assessment. Teacher educators use these materials to support their class lectures and/or assign them to be reviewed by students outside of class. Faculty provided all instructors with access to these curriculum supports via Blackboard®, a learning management system. In addition, given that undergraduate students performed slightly lower than their graduate level counterparts, those teacher educators who provide instruction for the undergraduate sections of the course (i.e., PhD students) were targeted for support. Prior to teaching independently, the PhD student instructor would complete a co-teaching experience in order to understand how to structure and sequence a course, prepare students for the state reading exam, evaluate student learning, and effectively use the Blackboard® organization tool. This approach is more targeted and systematic than previous attempts to support instructors of the course, because decisions are directly informed by student performance.

Helping Teachers Accurately Gauge their Knowledge

In addition to providing quality teacher preparation courses, instructors need to make efforts to help teacher candidates accurately gauge their knowledge of critical concepts related to reading instruction. Research has shown that both pre-service and practicing teachers are not accurate in their perceptions about their instructional knowledge (Spear-Swerling et al., 2005; Washburn et al., 2011). Such perceptions can impact efforts towards seeking out and attaining knowledge related to reading instruction. For example, teachers who perceive themselves as more knowledgeable about a topic are less likely to seek out and attain knowledge on that topic (Spear-Swearling et al., 2005). Clearly, this is a problem when teacher perceptions about

their own knowledge are inaccurate. Unfortunately, researchers (e.g., Cunningham et al., 2004) have found that less-experienced, less-credentialed teachers inaccurately viewed themselves as more knowledgeable than more experienced, fully credentialed teachers. This suggests that teachers who lack sufficient knowledge are not likely to recognize it. Therefore, providing teachers with accurate information about their actual knowledge is important for helping teachers be more meta-cognitively aware of what they know and what they do not know.

An important outcome of the work in the current study is that explicit feedback about performance on the CAST-R can now be provided to students enrolled in the Language Development and Reading Course which can give teacher candidates an accurate gauge of their knowledge of the basic concepts needed to teach reading. In the current study, CAST-R cut scores were calculated to indicate a student's chance of passing the VRA. This information was then used to develop a guide to help students interpret their performance and identify strategies for increasing knowledge in critical areas. This guide is now shared with students after taking the CAST-R exam. This feedback allows teacher candidates to make decisions about their preparedness to take the state licensure exam and/or their need for additional coursework. More importantly, it provides them with information about the specific areas where they need to continue to gain knowledge about important reading instruction concepts.

Additional Considerations

Findings of the current study showed that ethnicity, gender, and class size and location, were predictors of students' overall performance on the CAST-R or at least

one of the sub-domains. Findings related to ethnicity might be explained in part by the inclusion of international students within the "other ethnicities" group. In many instances, these students are in the process of learning English and it is unclear how this may have influenced the results. Future investigations should collect additional demographic information about participating teacher candidates so that further explanations of findings might be determined.

Our finding that students performed better in larger classes is misleading. In the participating program, larger class sizes are found in cohort sections where educators are employed in cooperating school districts. Two-thirds of students in both on-campus and off-campus course sections have less than three years teaching experience and all students complete a field-based assignment within the course. However, teacher candidates who are currently employed in school based settings are much more likely to observe and/or apply concepts of reading learned in the course because they are in the classroom every day. Knowledge attainment differences are consistent with research (e.g., Al Otaiba & Lake, 2009) that reports an increase in content learning with fieldwork experiences. It would be logical to infer that increased field experience opportunities may be a factor in the increased knowledge attainment by these individuals.

Implications for Practice

Current study findings have potential implications for other teacher preparation programs that might consider the use of common assessments to improve course instruction and student outcomes in teacher preparation programs. While these results have direct implications for institutions of higher education in states that have

state exam requirements for reading, this process also has the potential for generalization to content in other areas of licensure as well. First, institutions of higher education can identify critical content required by the state for licensure and ensure that courses adequately address this content. Then, a common assessment of critical content of teacher knowledge can be used to provide feedback to teachers that can help them more accurately gauge their knowledge. In addition, information can help lead instructors in providing targeted course improvements including supporting part-time instructors. Such efforts are particularly important in programs that rely heavily on part-time instructors and adjuncts.

References

Al Otaiba, S., & Lake, V. (2007). Preparing special educators to teach reading: Using classroom-based assessments to judge response to intervention. *Reading & Writing: An Interdisciplinary Journal, 20*, 591-617.

Bos, C., Mather, N., Dickson, S., Podhajski, B., & Chard, D. (2001). Perceptions and knowledge of pre-service and in-service educators about early reading instruction. *Annals of Dyslexia, 51*, 97–120.

Cunningham, A.E., Perry, K.E., Stanovich, K.E., & Stanovich, P.J. (2004). Disciplinary knowledge of K-3 teachers and their knowledge calibration in the domain of early literacy. *Annals of Dyslexia, 54*, 139-167.

Darling-Hammond, L.D. (2000). Teacher quality and student achievement: A review of state policy evidence. *Education Policy Analysis Archives, 78*(1), 1–44.

Goodman, G., Arbona, C., & de Ramirez, R.D. (2008). High-stakes, minimum-

competency exams: How competent are they for evaluating teacher competence? *Journal of Teacher Education, 59*, 24-39.

Joshi, R.M., Binks, E., Graham, L., Ocker-Dean, E., Smith, D.L., & Boulware-Gooden, R. (2009). Do textbooks used in university reading education courses conform to the instructional recommendations of the national reading panel? *Journal of Learning Disabilities, 42*, 458-463.

Joshi, R.M., Binks, E., Hougen, M., Dahlgren, M.E., Ocker-Dean, E., & Smith, D.L. (2009).Why elementary teachers might be inadequately prepared to teach reading. *Journal of Learning Disabilities, 42*, 392-402.

Mather, N., Bos, C., & Babur, N. (2001). Perceptions and knowledge of pre-service and in-service teachers about early literacy instruction. *Journal of Learning Disabilities, 34,* 472–482.

McCombes-Tolis, J., & Feinn, R. (2008). Comparing teachers' literacy-related knowledge to their state's standards for reading. *Reading Psychology, 29,* 236-265.

McCutchen, D., & Berninger, V.W. (1999). Those who know, teach well: Helping teachers master literacy-related subject-matter knowledge. *Learning Disabilities Research & Practice, 14*, 215-226.

Moats, L.C. (1994). The missing foundation in teacher education: Knowledge of the structure of spoken and written language. *Annals of Dyslexia, 44,* 81–102.

Moats, L.C. (1999). *Teaching reading IS rocket science: What expert teachers of reading should know and be able to do* (No. 372). Washington, DC: American

Federation of Teachers.

National Center for Education Statistics. (2011). The Nation's Report Card: Reading

    2011. Retrieved from:

    nationsreportcard.gov/reading_2011/nat_g4.asp?tab2&subtab_id=Tab_6#chart

National Reading Panel. (2000). *Report of the National Reading Panel. Teaching*

    children to read: An evidence-based assessment of the scientific research

    literature on reading and its implications for reading instruction. Washington,

    DC: NIH.

Piasta, S.B., Conner, C.M., Fishman, B.J., & Morrison, F.J. (2009). Teachers'

    knowledge of literacy concepts, classroom practices, and student reading growth.

    Scientific Studies of Reading, 13, 224-248.

Reutzel, D.R., Dole, J.A., Read, S., Parker F., Herman, K., Jones, C.D., Sudweeks,

    R., & Fargo, J. (2011). Conceptually and methodologically vexing issues in

    teacher knowledge assessment. *Reading & Writing Quarterly, 27,* 183-211.

Rowan, B., Correnti, R., & Miller, R.J. (2002). What large-scale, survey research

    tells us about teacher effects on student achievement: Insights from the prospects

    study of elementary schools. *Teachers College Record, 104,* 1525–1567.

Salinger, T., Mueller, L., Song, M., Jin, Y., Zmach, C., Toplitz, M., Partridge, M., &

    Bickford, A. (2010). A study of teacher preparation in early reading instruction

    (NCEE 2010-4036). Washington, DC: Institute of Education Sciences.

Spear-Swerling, L., Brucker, P., & Alfano, M.P. (2005). Teachers' literacy-related

knowledge and self-perceptions in relation to preparation and experience. *Annals of Dyslexia*, *55*, 266–296.

Stotsky, S. (2009). Licensure tests for special education teachers: How well they assess knowledge of reading instruction and mathematics. *Journal of Learning Disabilities, 42,* 464-474.

Washburn, E.K., Joshi, R.M., & Binks-Cantrell, E. (2011). Teacher knowledge of basic language concepts and dyslexia. *Annals of Dyslexia, 17,* 165 -183.

Table 1. *Participant Characteristics*

	On-Campus (*n*=107)	Off-Campus (*n*=160)
Program Characteristics		
Licensure Program	58%	69%
with Master's Degree	73%	93%
Undergraduate Minor	13%	0
Certificate Program	7%	3%
Elective Course	7%	0
Class Characteristics		
Classes with <20	75%	44%
Full-time Instructors	50%	67%
Participant Characteristics		
Hold Teaching License	19%	27%
Seeking Teaching Licensure	64%	69%
Teaching Experience		
Public School Employment	50%	97%
Instructional Assistant	18%	27%
<3 Years Educational Experience	75%	74%
Experience with Students with Mild Disabilities	20%	54%
Interest in working with Students with Mild Disabilities	64%	63%

Table 2. *VRA Success predicted by CAST-R by Demographic Variables*

Demographic	0-50% Chance of Pass *n* (%)	50-100% Chance of Pass *n* (%)	100% Chance of Pass *n* (%)
Gender			
Male	5 (11%)	36 (80%)	4 (9%)
Female	6 (4%)	132 (79%)	29 (17%)
Ethnicity			
White	4 (2%)	136 (80%)	31 (18%)
Other	7 (17%)	32 (78%)	2 (5%)
Instructor			
Full-time	6 (5%)	94 (73%)	28 (22%)
Part-time	5 (6%)	74 (88%)	5 (6%)
Location			
On-campus	6 (7%)	73 (81%)	11 (12%)
Off-campus	5 (4%)	95 (78%)	22 (18%)
Level			
Undergraduate	2 (9%)	12 (77%)	3 (14%)
Graduate	9 (5%)	151 (79%)	30 (16%)
Semester			
Traditional	7 (6%)	85 (76%)	19 (17%)
Alternative	4 (4%)	83 (82%)	14 (14%)
Certification			
Yes	1 (2%)	37 (77%)	10 (21%)
No	10 (6%)	130 (80%)	22 (14%)
Experience			
0-2 years	7 (5%)	112 (81%)	19 (14%)
>2 years	4 (6.8%)	44 (74.6%)	11 (18.6%)

Table 3

Regression of CAST-R Scores on Demographic Variables

Independent Variables	Total Score B (SE)	Total Score Part-correlation	Domain 1 B (SE)	Domain 1 Part-correlation	Domain 2 B (SE)	Domain 2 Part-correlation	Domain 3 B (SE)	Domain 3 Part-correlation	Domain 4 B (SE)	Domain 4 Part-correlation
Class size	0.310*** (0.058)	0.326	0.046** (0.016)	0.191	0.047** (0.017)	0.176	0.135*** (0.027)	0.315	0.083*** (0.016)	0.331
Gender (1=Male; 2=Female)	4.007*** (1.214)	0.202	0.810* (0.325)	0.160	1.214*** (0.363)	0.219	**1.127*** (0.552)	0.127	0.856** (.327)	0.165
Ethnicity (1=White; 2=Other)	-4.244*** (1.238)	-0.210	-0.906** (0.331)	-0.176	-0.443 (.370)	-0.078	-2.460*** (0.563)	-0.272	-0.434 (0.333)	-0.082
Location (1=On-campus; 2=Off-campus)	1.582 (0.998)	0.097	0.670* (0.267)	0.161	0.478 (0.298)	1.05	-0.003 (0.454)	0.000	0.436 (0.269)	0.102
	R²=.213		R²=.132		R²=.104		R²=.189		R²=.164	
	F=14.18***		F=7.97***		F=6.07***		F=12.229***		F=10.32***	

Note. Statistically significant regression coefficients are in bold.
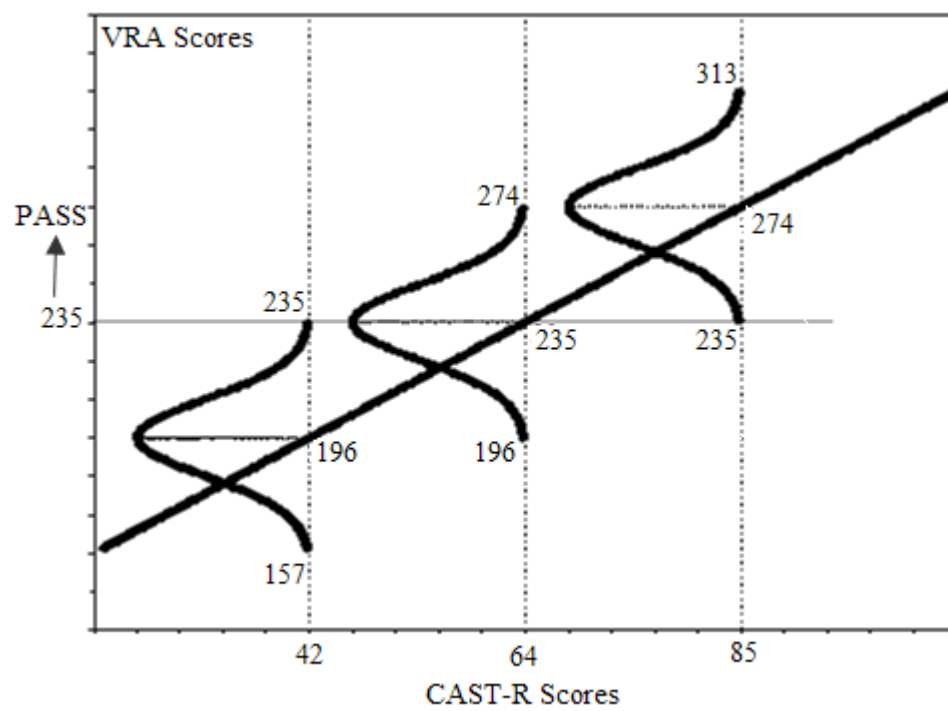*p<.05. **p<.01. ***p<.001.

Figure 1. Conditional distributions of VRA scores

Perspectives of Pre-Service Teachers on Students with Emotional Disabilities

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Abstract

Perceptions of working with students of emotional disabilities or who are considered Emotionally/Behaviorally Disturbed (E/BD) is varied across the spectrum. However, one constant that does hold true is that all pre-service teachers have some hesitation in working with such students, especially if they lack any previous exposure to students with E/BD. This study compared pre- and post-test Likert-scale type surveys about pre-service teachers' (n = 35) perceptions regarding students with E/BD. In between the pre- and post-test, the pre-service teachers were given classroom instruction and were assigned a practicum field experience to observe and work alongside students with emotionally charged behaviors housed in an alternative educational facility. The scores were analyzed via a paired t-test and findings revealed that practical observation experience at an alternative school setting for E/BD students and instruction on behavior management strategies had a significantly positive effect on survey respondents' perceptions regarding E/BD students.

The intimidating task of educating students with disabilities is also one of a special education teacher's fundamental rewards. It is a task that few seek, but those who do, live their lives exercising patience, high standards, and a belief that all children can learn. Recent publications (Burkman, 2012; Gal, Schreur, & Engel-Yeger, 2010) have discussed the varied perceptions that teachers of special education share. Some of those perceptions debate how teachers view students with specific needs, as well as the best way to prepare teachers to work with this group (Gal et al., 2010; Rosenberg & Walther-Thomas, 2014). Of most importance was the impression that some teachers who work with students who are labeled

Emotionally/Behaviorally Disturbed (E/BD) are somewhat misguided to believe that those students need less rigor in the classroom, should live and work in special communities, or are unable to be productive in society. It was these predispositions that drove the interest for this study.

Today's reality of educating students in the least restrictive environment has become quite demanding with the inception of No Child Left Behind. Teachers no longer sit behind a desk or stand at the front of the classroom teaching with a "one size fits all" mentality. In our 21st century schools, teachers have become experts with academic rigor, character education, and have evolved into testing specialists. While doing their very best at juggling the array of demands that surrounds this profession, they are also responsible for holding the attention of 28-30 students in a classroom, all of whom might "look" very different. While the majority of the students in the classroom might fit a specific norm, still others remain outliers.

Those outliers might take on different personas and encompass different demands. Some might be identified as gifted students, while others might be identified as having a disability. Additionally, others might be "slow learners" with little to no services available for their success. The teacher of today must work through these hardships to ensure each individual need is met through differentiated academic success.

Review of the Literature

In reviewing the literature and previous research on this matter, it can be understood that very little surrounds the topic of perceptions of pre-service teachers in regards to students who have emotional/behavioral disabilities (E/BD) or who are emotionally disturbed (ED). However, it has been commonly noted and accepted "that the perceptions educators hold about youngsters with disabilities may affect the way they classify and treat these children in their classes" (Garvar &

Schmelkin, 1989, p.463; Gal et al., 2010). Because teachers work with these students on a daily basis, they are the ones in the best position, many times, to determine the level and type of services that should be offered to the students (McLeod & McKinnon, 2010). In the remainder of this paper, the term ED, as stated the Individuals with Disabilities Education Act (IDEA, 2004), will be used to describe/define the study's population.

As new teachers enter the classroom, they are often unprepared to face the challenges that are present when working with ED (Burkman, 2012). Due to a lack of preparation or prior teaching in a classroom that houses students with ED, it is necessary that administrators provide professional development activities for their teachers that include training on working with this population (Burkman, 2012). It is, therefore, important that pre-service teachers be presented with opportunities and field experiences that will allow them to interact with the students of this nature before they obtain their first teaching assignment (Berry, Petrin, Gravelle, & Farmer, 2012; Dukes, Darling, & Doan, 2014). When arranging such experiences for pre-service teachers, it is necessary to "allow teacher candidates to observe and gain some perspective on the implementation of effective practices," including those necessary for working with the ED population (Dukes et al., 2014, p.12). Additionally, this training will be "most effective if facilitated by learning in a community. . . to promote teacher understanding and the transfer of knowledge to practices in the classroom" (Berry et al., 2012, p.10; Albrecht, 2009).

Prior research supports that there is a shortage of teachers who are comfortable and willing to teach ED at the early stages of their careers (Albrecht, Johns, Mounsteven, & Olorunda, 2009). Because of this, it is necessary to help adjust pre-service teachers' attitudes and perceptions of students with ED before they enter the workforce. One way this can be done is through field experiences (Berry et al.,

2012). However, while the value of field experiences is understood and the necessity of proper pre-service teacher preparation is known, there is a lack of research on the specific topic of how such experiences will alter and change pre-service teacher perceptions of working with such students.

Purpose of Study

The purpose of this study was to identify changes in perceptions of pre-service teachers ($n = 35$) enrolled in an undergraduate-level behavioral management course by conducting a pre- and post-test survey at the beginning and at the end of the course, with an intervening 18-hour course embedded practicum experience at an alternative school. The alternative school environment chosen was one with multiple locations specifically designed for students who were unable to participate in compulsory schools due to psychological, emotional, or learning difficulties. The facilities did not include a residential component.

The pre-service teachers were required to observe an alternative education special education classroom which contained students with ED and learn strategies during a 16-week course to help prepare them in the area of behavioral management. With the data collected by the research, we hoped to provide insight to both the perspectives of future educators working with students of ED, and concerns that do or do not diminish after the practicum and coursework was completed. This will provide professors of pre-service teachers with suggestions for addressing issues of concern related to instruction in this content area.

Additionally, the discussion of the research will hopefully shed some light on existing misconceptions and biases while demonstrating the need for teacher preparation programs to fully educate our teacher candidates about the realities of working with students who encompass emotional challenges.

Practicum Field Experience

Each undergraduate candidate seeking Virginia licensure in special education was required to take a class on behavior management. It was within this course that professors began to identify the necessity in working hands-on with specific populations, resulting in a change in programming to include a field experience practicum. While behavior management courses focus on all behaviors, the majority of time seems to be concentrated on negative behavior and how to address, distract, and extinguish unfavorable behaviors within the classroom. It was with this concept in mind that the practicum began to take shape. One area in which few are comfortable to teach is the area of educating students of ED. To better prepare our candidates, a partnership was developed with the most restrictive environment of this population. The school environment was one with multiple locations scattered throughout the Commonwealth and its programs were developed specifically for students who were unable to participate in compulsory schools due to psychological problems, emotional or learning difficulties, but who do not require residential treatment.

The pre-service teachers were required to observe and work with the students for a minimum of three full school days (i.e., 18 hours) so a true understanding in working with ED could be established. It was the belief that if our pre-service teachers could manage this practicum, they would be better suited to work in any environment, especially for those candidates who were skeptical in working with students with disabilities (SWD). For most of the candidates, the experience was a welcomed challenge, but for others, the uncertainty caused great distress. By this, candidates without the necessary passion could be advised out of the special education program, if need be.

During the practicum, the pre-service teachers could work with multiple

teachers, counselors, and para-professionals throughout the day. They could assist with small group activities, duties, or simply observe teacher-student interactions. Throughout the day, the candidates were required to journal and reflect on his/her experiences. They were to critique the day and include suggestions that could be used in his/her classroom or cite things that would be changed with a discussion of the purpose and method of change.

Methodology

Rationale

As previously discussed, we know that field experiences strengthen pre-service teachers and prepare them for the classroom (Berry, Petrin, Gravelle, & Farmer, 2012; Dukes, Darling, & Doan, 2014). Additionally, we know that teachers of ED are often not thoroughly prepared to effectively instruct this population of students (Burkman, 2012). Finally, teachers' positive perceptions about their students have a positive impact on those students' academic success (Garvar & Schmelkin, 1989). Holding these *a priori* assumptions to be true led the researchers to pose the question, "Will field experiences in an alternative school setting and instruction regarding students with ED positively impact pre-service teacher candidates' perceptions about students with ED ?"

Methods

As stated, participants ($n = 35$) were education major pre-service candidates enrolled in an undergraduate-level behavior management course at a large, private, Christian university. Participants were asked to complete the survey reporting their perceptions about working with the ED population (See Table 1) both before and after an 18-hour embedded course practicum observing at an alternative school for ED and 16 weeks of instruction in behavior management. The majority of the Likert-scale type survey questions were worded such that higher rankings

expressed a higher level of disagreement with negative perceptions and typical misconceptions associated with students with ED. Likewise, a higher mean score of answers indicates a better perception. It was hypothesized that the practical experience in working with ED in an alternative school setting and the instruction in behavior management strategies would positively affect the participants' perceptions of students with ED.

Table 1. *Emotionally Disabled Students Perception Survey*

Use the scale below to identify how much you agree or disagree with each statement in the survey.

1 = I agree very much   2 = I agree pretty much   3 = I agree a little

4 = I disagree a little   5 = I disagree pretty much   6 = I disagree very much

1. Teachers of ED children should be less strict than other teachers.

2. ED students are just as intelligent as non-disabled ones.

3. ED students are usually easier to get along with than other people.

4. Most ED students feel sorry for themselves.

5. ED students are the same as anyone else.

6. There should not be a special school for ED children.

7. It would be best for ED students to live and work in special communities.

8. It is up to the government to take care of ED students.

9. Most ED students worry a great deal.

10. ED students should not be expected to meet the same standards as non-ED students.

11. ED students are as happy as non-ED students.

12. Severely ED students are no harder to get along with than those with minor ED.

13. It is almost impossible for ED students to lead a normal life.

14. You should not expect too much from ED students.

15. ED students tend to keep to themselves much of the time.

16. ED students are more easily upset than non-ED students.

17. ED students cannot have a normal social life.

18. Most ED students feel that they are not as good as other people.

19. You have to be careful of what you say when you are with ED students.

20. ED students are often grouchy.

Results

Each participant's 20 survey responses were averaged and a paired *t-test* was conducted on the matching pre- and post-test survey means for each of the 35 participants (see Table 2, below). An analysis of the means of the responses for each individual question was also conducted to determine if there were any outliers.

Table 2. *Paired Two Sample for Means*

	POST TEST AVG	PRE TEST AVG
Mean	3.960571429	3.787714286
Variance	0.135023193	0.116241681
Observations	35	35
Pearson Correlation	0.545138332	
Hypothesized Mean Difference	0	
df	34	
t Stat	3.019875002	
P(T<=t) one-tail	0.002386575	
t Critical one-tail	1.690924255	
P(T<=t) two-tail	0.004773149	
t Critical two-tail	2.032244509	

With a $t > 3.02$, the change in survey scores between the pre- and post-test is greater than three standard deviations, indicating a rather large scale, positive

change in the surveyed perceptions of the participants. With a $p = 0.0024$ for the one-tailed t-test and $p = 0.0048$ for the two-tailed t-test, the results are statistically significant, rejection of the null hypothesis is warranted. Practical observation experience at an alternative school setting for ED and instruction on behavior management strategies significantly has a large positive effect on survey respondents' perceptions regarding students with ED.

Limitations

The small sample size is a limitation to the generalizability of this study, along with the population from which the sample was drawn (education majors in a large, private, Christian university). Additionally, a question-by-question analysis of the mean responses for each question revealed that five of the questions (2, 3, 5, 11, and 12) should be reworded so that the directionality of the responses corresponds with those of the remaining questions.

Discussion

We believe that rewording certain questions (see Table 3) and conducting a pilot-survey to calculate a *Cronbach's alpha* would only serve to strengthen the already significant results. It would also be useful to replicate this study with a larger sample size and at other universities with similar courses.

Table 3. *Suggested Rewording for Select Emotionally Disabled Students*

Perception Survey Questions
2. ED students are less intelligent than non-disabled ones.

3. ED students are less easy to get along with than other people.

5. ED students are different from everyone else.

11. ED students are sadder than non-ED students.

12. Severely ED students are harder to get along with than those with minor ED.

Implications for Practitioners

As shown by the literature and the research conducted, it is necessary to ensure that pre-service teachers are receiving field experiences prior to graduation that include time spent with students with disabilities, and in this case—students with emotional disabilities (Berry et al., 2012; Dukes et al., 2014). The time that is spent with this population will help to alter and improve the perceptions of the pre-service teachers, making them much more willing, as well as much more prepared, to work with these students in their own future classrooms. In today's teaching climate, including mainstreaming of SWD to general education settings, it is unavoidable that every teacher will work with students who receive services at some point in his or her teaching career (Monsen & Frederickson, 2004). Those who are responsible for managing field experiences and student-teaching within teacher preparation programs should ensure that pre-service teachers are exposed to experiences with a diverse array of learners in a variety of settings, including experiences with SWDs at alternative school settings.

Suggestions for Pre-Service Teachers

Positive teacher attitudes regarding students with special needs have a direct impact on the academic success of those students (Monsen & Frederickson, 2004). The results of the research outlined herein evinces that field experiences and instruction regarding students with ED significantly increases pre-service teachers' positive attitudes about these students. Further, after conducting this research and reviewing the feedback presented by the pre-service teacher candidates' journal reflections, several suggestions arose:

1. It would be beneficial to continue this practicum in this restricted environment as an extension of the behavior management required course.

2. Some candidates observed the raw reality of other teachers and were discouraged by the lack of passion exhibited towards their students. As a result, many of the candidates have decided to apply to the specific school for positions that may arise with the turnover that most schools of this nature encounter.

3. Some pre-service teachers suggested having specific strategies to implement with various behaviors with the hope of developing a "toolbox" of sorts for de-escalation.

Implications for Future Research

As indicated above, this research gives telling evidence about the value of practical field experiences in education programs. It would be useful to replicate this study with revised survey questions and a larger, more diverse sample. Also, by conducting similar surveys that may gauge the usefulness of field experiences in other settings where such field experiences are not often conducted might also strengthen this research. While the value of field experiences has been researched for nursing and medical school students, other fields could benefit from such inquiry.

Conclusion

National survey data regarding teacher preparation program requirements in regards to ED showed that nearly 87% of the responding institutions had an ED field observation requirement for pre-service teachers (Maag & Katsiyannis, 1999), but there is no indication as to the extent and quality of those field experiences and practically no research-based data to support whether or not those field experiences improve the pre-service teachers' perceptions regarding ED. Even without this research, one might intuitively suggest that affording pre-service teachers with practical field experiences in any number of specialized tracks can only serve to improve the pre-service teachers' levels of self-confidence and positive attitudes

regarding the content of those field experiences. Only a couple of studies could be found that imply that field experiences with diverse populations of (including those with ED) will serve to broaden the levels of cultural competence of the pre-service health professional candidates completing the field experience (Luquis & Perez, 2003; Shaya & Gbarayor, 2006). Additional studies implied that diversified practicum field experiences for pre-service teacher candidates (including, but not solely focused on students with ED) would likewise increase awareness of pre-service teachers completing the field experience (Guiberson, 2009; Wild, Hilson, & Farrand, 2013). It is apparent from the research that pre-service teachers can only benefit from interactions surrounding the field of ED and that more exposure to the experiences and behaviors of these students will serve as a strength when entering the field of education. With such positive results of perception, it would also make sense that other educator preparation programs seek opportunities to reveal the various types of learners that teacher candidates will encounter as they seek licensure by use of practicum or field experiences. Through this research, it is anticipated that other universities will see the value in practical field experiences (targeting specific diverse student types) for teacher candidates and that they will ensure proper exposure to the types of students with whom the candidates will work as they move towards their career goals.

References

Albrecht, S. (2009). The message from the pioneers in EBD: Learning from the

past and preparing for the future. *TEACHING Exceptional Children Plus, 5*(4),

2-14.

Albrecht, S., Johns, B. H., Mounsteve, J., & Olorunda, O. (2009). Working

conditions as risk or resiliency factors for teachers of students with emotional

and behavioral disabilities. *Psychology in the Schools, 46*(10), 1006-1022.

Berry, A. B., Petrin, R. A., Gravelle, M. L., & Farmer, T. W. (2011). Issues in
   special education teacher recruitment, retention, and professional development:
   Considerations in supporting rural teachers. *Rural Special Education Quarterly,
   30*(4), 3-11.

Burkman, A. (2012). Preparing novice teachers for success in elementary
   classrooms through professional development. *Delta Kappa Gamma Bulletin,
   78*(3), 23-33.

Dukes, C., Darling, S. M., & Doan, K. (2014). Selection pressures on special
   education teacher preparation: Issues shaping our future. *Teacher Education
   and Special Education, 37*(1), 9-20.

Gal, E., Schreur, N., & Engel-Yeger, B. (2010). Inclusion of children with
   disabilities: Teachers' attitudes and requirements for environmental
   accommodations. *International Journal of Special Education, 25*(2), 89-99.

Garvar, A., & Schmelkin, L. (1989). A multidimensional scaling study of
   administrators' and teachers' perceptions of disabilities. *Journal of Special
   Education, 22*(4), 463-478.

Guiberson, M. (2009). Hispanic representation in special education: Patterns and
   implications. *Preventing School Failure, 53*(3), 167-176. Individuals with
   Disabilities Education Act, 20 U.S.C. § 1400 (2004).

Luquis, R. R., & Perez, M. A. (2003). Achieving cultural competence: The
   challenges for health educators. *American Journal of Health Education, 34*(3),
   131-138.

Maag, J. W., & Katsiyannis, A. (1999). Teacher preparation in E/BD: A national
   survey. *Behavioral Disorders, 24*(3), 189-196.

Monsen, J., & Frederickson, N. (2004). Teachers' attitudes towards mainstreaming

and their pupils' perceptions of their classroom learning environments.
Learning Environments Research, 7, 129-142.

McLeod, S., & McKinnon, D. H. (2010). Support required for primary and
secondary students with communication disorders and/or other learning needs.
Child Language Teaching & Therapy, 26(2), 123-143.

Rosenberg, M. S., & Walther-Thomas, C. (2014). Innovation, policy, and capacity
in special education teacher education: Competing demands in challenging
times. *Journal of Special Education, 37*(1), 77-82.

Shaya, F. T., & Gbarayor, C. M. (2006). The case for cultural competence in health
professions education. *American Journal of Pharmaceutical Education, 70*(6),
124-129.

Wild, T. A., Hilson, M. P., & Farrand, K. M. (2013). Conceptual understanding of
geological concepts by students with visual impairments [sic]. *Journal of
Geoscience Education, 61*(2), 222-230.

Maximizing the Effective Use of Formative Assessments

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Abstract

In the current age of accountability, teachers must be able to produce tangible evidence of students' concept mastery. This article focuses on implementation of formative assessments before, during, and after instruction in order to maximize teachers' ability to effectively monitor student achievement. Suggested strategies are included to help expand educators' repertoire of possible formative assessments that can be utilized in the classroom setting. These strategies can make teachers more productive and effective in monitoring and assessing student achievement.

Second grade students were busy in their learning communities, discussing how the pieces of a puzzle should go together, or in this case, come apart. It was a rather interesting puzzle because the pieces were real and once taken apart, they could not be put back together, which made the assignment that much more difficult for little fingers. This group of second grade students would never look at flowers the same way again.

As the activity unfolded, I could not wait to see how the assessment for the activity would be handled. Students were challenged by the teacher candidate to explore the parts of the flower by dissecting their specimen. For weeks now, we had discussed the importance of formative assessment strategies as related to effective instruction; strategies that, as a public school teacher, I had found effective in my classroom. Now I was hoping to see the results of those discussions open up like a flower in spring[1].

"Formative =Feedback" was a common thread in notes taken by my teacher candidates with the understanding that answering the question "Did the student

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[1] http://www.softschools.com/science/plants/flower_anatomy.jsp

master the objective?" meant giving me tangible evidence of student results, which differs extensively in the elementary setting. Thus began the instructional focus of understanding the importance of giving student feedback throughout the lesson by effectively using formative assessments to evaluate mastery.

Formative Assessments

A meta-analysis by Bangert-Drowns, Kulik, and Kulik (1991), in which 29 studies were analyzed, strongly supports the idea that student academic achievement is directly correlated to the number of formative assessments given. But the most important factor here is that the student feedback must be focused on the quality of work or concept to be mastered, not on grades or scores which set up student comparison and devalues the formative assessment process (Butler, 1987).

According to Fisher and Frye (2007) "formative assessments are ongoing assessments, reviews, and observations in a classroom" (p. 4) which provide a "systematic process to continuously gather evidence and provide feedback about learning while instruction is under way" (Heritage, Kim, Vendlinski, and Herman, 2009, p.24). Consequently, instruction must engage the learner as well as check for understanding in order for effective instruction to take place in the elementary school setting. Thus, teachers must have a solid foundation as to understanding formative assessments and the impact such feedback has on instruction and student success.

Checking for Understanding

In the current age of accountability, teachers must be able to produce tangible evidence of concept mastery. Teachers who begin lesson planning with the following questions, set the stage for integrating formative assessments: What do I want my students to be able to do as a result of this lesson and how will I know that

they have mastered the concept? Checking for understanding is an important aspect in understanding whether or not your students have actually internalized the concept or objective. What strategies could be used to give the students feedback and assess their understanding?

Let us return to the lesson on flowers posed earlier. What strategies could be used to give the students feedback and assess their understanding of the parts of a flower? The following tables outline techniques that could be used to check for understanding. When reading through the different techniques listed, think about the students in the previous lesson scenario. Which techniques would be appropriate for their age and grade level?

Techniques to check for understanding can take place at any time; before, during, and after the lesson. For example, if the objective or concept being taught is building upon prior knowledge, checking for understanding before instruction is important because if the students do not have a firm foundation upon which to build concepts, assimilation will not take place. The same is true during instruction, in which the steps of a process must be followed in order to understand and correctly assimilate the new information. Furthermore, for teachers to be confident that students have mastered the new concept, checking for understanding at the end of the lesson will give evidence needed. The following tables outline techniques used to check for understanding before, during, and after instruction.

Before Instruction

When teachers find ways to engage students at the beginning of a lesson, students' in turn begin to activate prior/background knowledge. This is important because activating prior knowledge is the first step in assimilating new knowledge. Furthermore, teachers are more effective in guiding student learning in order to

facilitate concept mastery. The strategies listed in Table 1 below help teachers

check for understanding and engage students before instruction takes place.

Table 1. *Tools to Check for Understanding: Before Instruction*

Index Card Info	Distribute index cards and ask students to write on both sides, with these instructions: (Side 1) Based on the upcoming theme or concept, list a big idea that you understand about the concept (Side 2) Identify something about (unit topic) that you do not yet fully understand and would like to know.
Sixty Second Sound Off	A one-minute writing exercise with a focused question about a specific goal that can, in fact, be answered within a minute or two.
Say What?	One on one conversation with a student to check their level of understanding.
3-Minutes Please	The Three-Minutes Please provides a chance for students to stop, and make connections to prior knowledge or experience, or reflect on the concepts and ideas that have just been introduced, and seek clarification. • I changed my attitude about… • I became more aware of… • I was surprised about… • I felt… • I related to… • I empathized with…

All About Me!	Students collect information about what they know, analyze what it reveals about their progress toward the new learning goal, and plan the next step in the process.
Diary Day	Students "journal" about their understanding of the topic, concept or lesson taught. The teacher reviews the entry to check for understanding.

During Instruction

Integrating informal formative assessments during instruction allows the teacher to know where students are in their progress toward mastery. With this knowledge, students' conceptual understanding of the objective being taught presents opportunities to discover misconceptions students may have related to the information as presented. Therefore, by addressing these misconceptions, accommodation can take place. The strategies listed below in Table 2 will help determine what students know during instruction.

Table 2. *Tools to Check for Understanding: During Instruction*

High Five	Ask students to display a designated hand signal to indicate their understanding of a specific concept, or process: For example, I understand_____ and can explain it (thumbs up). - I do not yet understand _____ (thumbs down). – I am not completely sure about _____ (thumb extended horizontally).
Misconception	Present students with a common misconception

Check	about a concept, or process. The misconception check can also be presented in the form of a multiple-choice, hand signals, or think-pair-share.
Check Up Time	Teacher walks around the classroom during instruction to observe students as they work to check for learning. Strategies include: •Anecdotal Records •Conferences •Checklists
Analogy Angle	Periodically, present students with a simple analogy prompt: _____ is like _____because_____ _____.
Choral Comeback	In response to a cue, all students respond verbally at the same time. The response can be either to answer a question or to repeat something the teacher has said.
Think-Pair- Share	Teacher poses question, gives students time to think individually, then pairs students (discuss with partner), then teams share ideas with the class.

After Instruction

The strategies in Table 3 below can help bring closure to a lesson. Valuable

instructional data can be collected at the end of a lesson to demonstrate students

newly acquired knowledge and understanding. Strategies implemented after

instruction can also assist in the collection of data in order to make instructional

decisions about the effectiveness of the lesson.

Table 3. *Tools to Check for Understanding: After Instruction*

License to Leave (Exit Slip)	Small piece of paper of index cards-students write short responses to questions posed at the end of a class or learning activity or at the end of a day. 2-3 questions
Portfolio Pride	A portfolio is a collection of significant work, carefully selected by the student and teacher, dated and presented to tell the story of a student's achievement or growth in well-defined areas of performance, such as reading, writing, math, etc. A portfolio may also include personal reflections where the student explains why each piece was chosen and comments from the teacher about what the portfolio shows about the student's growing skills and abilities.
A-B-C What You Know!	Each student is assigned a letter of the alphabet, or draws a letter from a stack of "letter cards" and they must choose a word which begins with the letter they selected that is related to the topic being studied.
Spin Away	Student teams create a spinner marked into 4 quadrants and labeled "Predict, Explain, Summarize, Evaluate." After new material is presented, the team captain spins the spinner and the team has to answer a question based

	on the location of the spinner. For example, if the spinner lands in the "Summarize" quadrant, the teacher might say, "List the three key concepts just presented."
Ticket OUT	Students respond in writing or verbally to short questions/assignments.
Map it Out!	Graphic organizers which allow learners to perceive relationships between concepts through diagramming key words or drawings representing those concepts. http://www.graphic.org/concept.html

General Strategies

Strategies listed in Table 4 below can be used before, during, or after instruction. These general strategies are an effective way to check for understanding in continuing to assess students' mastery of concepts.

Table 4. *Tools to Check for Understanding: Before, During, or After Instruction*

Inside-Outside Upside Down!	Students count off One, two, one, two, etc. Inside circle (ones) and outside circle (twos) face each other. Teacher asks question to the ONES, answer is discussed with the facing student. After discussion, Outside circle moves to the right which creates a new pair. Repeat. Naming to two teams always adds to the fun! (This is also a good icebreaker at the beginning of the year for student to get to know each other)
Numbered	Each student in a group of four is assigned a number.

Heads Team Together	The teacher asks a question. Members of each group work together to agree on an answer. The teacher randomly selects one number (1-4) and the student with that number responds with an answer for the group.
One Word Wonder	Students select or invent one word which they feel best summarizes the objective or concept.
Verbal Vantage	- How is _____ similar to/different from _____? - What are the characteristics/parts of _____? - In what other ways might we show show/illustrate _____? - What is the big idea, key concept, moral in _____? - How does _____ relate to _____? - What ideas/details can you add to _____? - Give an example of _____? - What is wrong with _____? - What might you infer from _____? - What conclusions might be drawn from _____?

	- What question are we trying to answer? What problem are we trying to solve? - What are you assuming about _____? - What might happen if _____? - What criteria would you use to judge/evaluate _____? - What evidence supports _____? - How might we prove/confirm _____? - How might this be viewed from the perspective of _____? - What alternatives should be considered _____? - What approach/strategy could you use to _____?

Summary and Conclusion

Formative assessment, whether informal (not scored) or formal (scored), is an essential indicator needed to check for student understanding and mastery of objectives. Looking back at the flower scenario, rather than presenting students with an intangible visual (picture or video) the teacher provided the students with a real flower. Students were able to use their senses to connect with the presented concept – the parts of a flower. The value of this lesson lies in the connections

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students were able to make to the objective of the lesson and their prior real world experiences. The next time a student in this class sees a flower they will be able to immediately connect their knowledge to their experience gleaned from this lesson. Checking for understanding strategies were used before, during, and after instruction to develop and support conceptual understanding related to the parts of a flower. Additionally, students' conceptual understandings were supported by following the hands-on experience with an interactive note taking activity where students recreated their experience where the parts of the flower were drawn and labeled.

Formative assessment should be thought of as a path to evidence the authentic assessment of knowledge, understanding, and skills that students acquire during instruction. How powerful would that assessment be for students receiving constructive feedback regarding their performance from both the teacher and their peers? "When students focus on improvement and progress, they are more likely to adopt mastery goals and develop high self-efficacy and expectations for success" (Cauley and McMillian, 2010, p.5). Therefore, when students receive validation and affirmation of their learning from multiple sources in a variety of ways, they gain confidence and self-efficacy related to their ability to learn and master concepts and teachers gain reflective evidence in regards to effectiveness in the classroom settings.

References

Bangert-Drowns, R.L., Kulik, J. A., & Kulick, C.C. (1991). Effects of classroom testing. *Journal of Educational Research, 85*(2) 89-99.

Butler, R. (1987). Tasks-involving and ego-involving properties of evaluation: Effects of different feedback conditions on motivational perspectives, interests and performance. *Journal of Educational Psychology, 79*(4), 474-82.

Cauley, K.M, & McMillian, J.H. (2010). Formative assessment techniques to support student motivation and achievement. *Journal of Educational Psychology, 84,* 261-271.

Fisher, D. & Frey, N. (2007).Checking for understanding: Formative assessment techniques for your classroom. Alexandria, VA: ASCD.

Heritage, M., Kim, J., Vendlinski, T., & Herman, J. (2009). From evidence to action: A seamless process in formative assessment? *Educational Measurement: Issues and Practice, 28*(3), 24–31.

Unpacking Biases: Developing Cultural Humility in Early Childhood and Elementary Teacher Candidates

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Abstract

Changing demographics in the U.S. require a focus on educating future teachers on how to engage children and families with diverse backgrounds. Teacher educators have been charged to address teachers' cultural competence and provide pedagogical instruction for working with diverse populations. We bolster this line of inquiry by sharing activities used in our university classrooms that support the development of teacher candidates' cultural competence vis-à-vis cultural humility. Acknowledging the development of cultural humility as a process, we provide teacher candidates with opportunities to transform their knowledge, skills, and abilities for working with diverse children and their families, through guided critical reflection, real life situations and field experiences.

American families are increasingly diverse and complex in terms of race, ethnicity, immigrant status, socioeconomic circumstances, and family structures (Cherlin, 2010; Walsh, 2012). In comparison to previous decades, the racial and ethnic diversity of children and families in nearly all states has increased (Hernandez, 2009), and nearly 16 million children or 22% of all children now live in poverty (Addy, Engelhardt, & Skinner, 2013). Moreover "demographic trends reveal an increasingly diverse and complex family life, and a more ambiguous and fluid set of categories traditionally used to define the family," such that our understanding of family dynamics and our approaches to working with "families must be attuned to our times and social contexts" (Walsh, 2012, p. 10). In this

paper, we discuss the importance of developing cultural competence vis-à-vis cultural humility in teacher candidates, and detail two exemplar cases of courses in early childhood and elementary teacher education programs. We aim to provide insight into potential strategies other teacher educators might incorporate in their university classrooms for developing cultural humility and competence for working with diverse children and families.

While United States classrooms have become ever more diverse (Banks & Banks, 2009; Howard, 2010), the teaching population has not. The vast majority of teachers in the United States remain middle-class and white (Causey, Thomas, & Armento, 2000). Given these demographics and, in turn, cultural differences, it is particularly alarming that teacher candidates lack awareness for how their students' and families' cultures[2] pertain to their instruction and classroom climate (Kumar & Hamer, 2012; Barry & Lechner, 1995). Moreover, teacher candidates continue to demonstrate resistance towards multicultural education courses in their teacher preparation programs (Brown, 2004; Villegas, 2007).

The cultural differences between mostly White, middle class teachers and their diverse students can have implications for student learning and development. Teachers' lack of understanding of students' cultural context can result in misinterpretation of behavior such that students are mislabeled as behavior problems or having learning disabilities (Rogoff, 2003). Looking to the effects on the wider society, Sleeter (2008) highlights how White teachers' lack of racial understanding further perpetuates institutionalized racism in the educational system. Grounded in a sociocultural perspective, Civil (2014) highlights the

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[2] In our courses we draw from multiple definitions of culture. Specifically, Swidler (1986) conceptualizes culture as a "tool kit" of habits, preferences, and abilities that contribute to "strategies of action" or the processes individuals experience to navigate their environment. However, it is contextual factors like social, institutional, and material resources (Lowe & Weisner, 2004) that shape action. Weisner (1997) considers culture to be the ways that everyday activities of individuals and families reflect shared cultural models or beliefs of a community. Components of each of these definitions guide how we discuss culture with teacher candidates, especially considering families' strategies of action interacting with society throughout their daily routines. Moreover, we work with teacher candidates to understand the intersectionality (Hill Collins, 1998) of identities related to race, class, gender, sexual orientation, family structure, and ability that contribute to the cultural experiences in families.

importance of teaching from students' "everyday" context to not just make learning accessible but to empower them to transform their situation (p. 79). Teachers without knowledge of their students' context miss out on this potentially transformative opportunity.

This lack of awareness combined with the growing cultural divide between teachers and their students means that candidates need preparation for the diverse student environments they may encounter (Sleeter & Owuor, 2011; Marx & Moss, 2011). Consequently, teacher educators must support the on-going *process* of developing cultural competency (Waters & Asbill, 2013) in teacher candidates across teacher education programs (Diller & Moule, 2005). Through these experiences, candidates gain not only knowledge and facts regarding diversity but the *attitudes* necessary for working effectively with diverse children and families (Gonzalez, Moll, & Amanti, 2005). The Council for the Accreditation of Educator Preparation (CAEP) acknowledges the importance of culturally competent teaching, specifically urging teacher education programs to prepare teachers for a diverse community of students (NCATE, 2008).

Cultural Humility

Cultural humility is an important component of a process-oriented frame of cultural competence (Waters & Asbill, 2013) and consists of the "ability to maintain an interpersonal stance that is other-oriented (or open to the other) in relation to aspects of cultural identity that are most important to the [person]" (Hook, Davis, Owen, Worthington, & Utsey, 2013, p. 2). Cultural humility has three foci: (a) continuous self-evaluation and self-critique; (b) desire to fix power imbalances; and (c) commitment to systematically advocate for others (Tervalon & Murray-Garcia, 1998). To develop cultural humility, teachers need: (a) the ability to recognize how their ethnocentrism and backgrounds shape their work with

students whose backgrounds differ from theirs; (b) an understanding of the broader context of society; and (c) a willingness and ability to use strategies of cultural competence (Weinstein, Tomlinson-Clarke, & Curran, 2004).

The question arises, however, how can we best to support teacher candidates in developing these knowledge, skills, and attitudes related to cultural humility? Recent research suggests that transformations in teacher candidates' knowledge, skills, *and* attitudes occur best with a combination of experiential and classroom learning opportunities (Harlin, Murray, & Shea, 2007; Melser, 2006; Zygmunt-Fillwalk & Clark, 2007). In emphasizing the role of experiential learning, CAEP, calls for "the redesign [of teacher] preparation programs to support the close coupling of practice, content, theory and pedagogy" (NCATE, 2010, p. iii). Specifically, the *Report of the Blue Ribbon Panel on Clinical Preparation and Partnerships for Improved Student Learning* (NCATE, 2010) urges programs to combine classroom cultural considerations with practical experience in the field with children and families from diverse backgrounds. To further the growth of cultural understandings, CAEP emphasizes also developing the habit of reflective practice in pre-service teachers so that field experiences can provide feedback for future practice and for enhanced self-understanding as a culturally competent teacher.

In addition to reflective practice, we expect our students to develop skills of critical reflection which requires them to consider not only their own ideology but "to look beneath the surface to see what may influence the situation and consider the "bigger picture" or examine entire context of situations with children and families (Lucas, 2012, p. 1). Critical reflection is necessary for the transformation of attitudes and development of cultural humility (Mezirow, 1990). Moreover, maintaining cultural humility using critical reflection is an on-going *process,* and

requires continual self-awareness, critical reflection and change of attitude if necessary.

Working with Diverse Families

There is a strong, positive link between family engagement and student outcomes (Henrich & Gadaire, 2008; Weiss, Capse, & Lopez, 2006; Swap, 1993). However, limited research exists on working with *diverse* students *and* their families (Kidd, Sanchez, & Thorpe, 2005). Parents, families, and communities are important educational resources as they act as "funds of knowledge", with the cultural knowledge and skills accumulated over time and demonstrated via daily routines that maintain family and community well-being and functioning (Esteban-Guitart & Moll, 2014, p. 35). With candidates unprepared to work with diverse families as well as children, these important "funds of knowledge" may not be accessed and critical home-school partnerships may not form, causing student outcomes to suffer.

Consequently, in our courses we focus on fostering cultural competence vis-à-vis cultural humility so teacher candidates may work effectively with individuals and families from diverse cultural backgrounds (Diller & Moule, 2005). Below we highlight two exemplar courses that demonstrate how we foster our teacher candidates' perceptions of and capacity for working with diverse children and families. We expand former conversations by emphasizing process-based experiences that aim to transform attitudes and perspectives while developing skills necessary for cultural competence. In particular, strategies discussed elucidate the relevance of critical reflection for maintaining a process- rather than product-oriented stance towards cultural competence, such that candidates develop the habit of examining their on-going work. We endeavor to provide teacher educators with ideas and strategies for working with teacher candidates in developing cultural

competence vis-à-vis cultural humility from a process-oriented frame.

Doing the Work: Building Cultural Humility

Program Context

Social justice is a core value of the college in which our early childhood education (ECE) and elementary education (ELEM) courses are situated. As such this core value is infused across all teacher education programs in the college. The focus of our ECE program, in particular, is on working with culturally, linguistically, and ability diverse children and families. One specific course, "Engaging Families of Diverse Young Learners", focuses entirely on building culturally humble partnerships with families and communities. Teacher candidates in this course gain general knowledge regarding family demographics, structures, functions, and theories (e.g., family systems, family stress and resilience frameworks, and ecological models), as well as instruction on how families' unique identities (i.e., race, class, culture, sexual orientation of family members, abilities of family members, immigration status) intersect to situate each child and their family in terms of access to societal resources. This knowledge equips teacher candidates to critically reflect from a strengths-based perspective on their own experiences as well as on children and families' needs and experiences. They also explore the role of implicit bias in working with children and families with diverse backgrounds. Moreover, ECE teacher candidates gain "hands-on" experience in applying this knowledge with families in the community.

ECE instructor positionality. As the primary instructor of this course, I am a married White, upper-middle class female, whose work focuses on family-strengths and critically examines the structures and policies that oppress those who are most marginalized. I engage in an on-going process of developing and maintaining personal awareness of the power and privilege afforded by my

financially secure SES, family structure, sexual orientation, education, and race. Committed to social justice action, I engage in Community-based Participatory Research (CBPR) in partnership with low-income immigrant communities to shift the structures and policies that perpetuate inequality and shape the development of individual, family, and community well-being and resilience. In the ECE course, I share my work with diverse, marginalized families and young children to provide real-life examples of the concepts we explore during the course. By sharing, I also hope to demonstrate how I critically reflect and grapple with my own situatedness and privilege.

Likewise, the elementary education (ELEM) program's focus on diversity in classrooms, family engagement and child development is embedded within a course titled, "Children, Family, Culture and Schools (Ages 4-12)." Using an ecological systems framework, this course focuses on situating candidates in understanding children's overall development and learning in light of their familial, cultural and individual developmental capacities and to generalize how these variables, in turn, may influence a child's optimal learning potential. The course focuses on topics around family engagement, implicit bias, developmentally appropriate practice and working with diverse learners. Further, this includes weekly field-based experiences in which students expand upon the content discussed in class and how it applies to the teaching practice with expectations for general and critical self-reflection throughout.

ELEM instructor positionality. I am a White Euro-American, married female in my mid-thirties. As a former elementary educator who worked in the southeast quadrant of Washington, D.C. as well as a rural community on the eastern shore of Maryland, my research, teaching, and service situates in closing the persistent achievement gap. All my work remains vested in social justice and equality for

marginalized students, families and communities and the importance of future educators approaching their teaching with an ecological understanding of students' development. As the primary instructor of this ELEM course, I emphasize candidates' knowledge, understanding and skills in educating ***all*** children with particular focus on ecological systems theory, family engagement, implicit biases, and developmental assets of learning.

Diversity Awareness Activity: Recognizing Stereotypes, Implicit Biases, and Assumptions

Simulation exercises such as the *Biases and Stereotypes Assessment* and *Check Your Assumptions* are two activities utilized to help candidates across our ECE and ELEM courses to acknowledge, challenge and even shift formerly unrecognized biases that might influence their perceptions of students' and families' cultural backgrounds. Rooted in critical reflection, these two activities, coupled with critical readings, lectures, and discussions focused on implicit bias (Kirwan Institute, 2013, 2014), intersectionality (Hill Collins, 1998), White privilege (Kendall, 2002), strengths-based and resilience-based perspectives (Walsh, 2003; Walsh, 2006), and culture (Lynch & Hanson, 2011; Weisner, 1997), drive candidates to not only *understand* these concepts but to *acknowledge* their own personal biases that arise naturally when reading simple phrases and cases as well as interacting with individuals and families. Reflecting on their implicit biases puts teacher candidates on the path to developing cultural competence vis-à-vis cultural humility.

For the *Biases and Stereotypes Assessment*, the focus is on racial-ethnic biases and involves first reading a phrase such as, "*We are considered to be the dominant group, the majority. We are upper class, uppity. We come from two parent stable homes. We have the power in the American society.*" From a list of eight racial-

ethnic backgrounds, candidates identify the group most associated with the statement and anonymously write their answers. The facilitator collects the responses, tallies the frequencies for each selection and then guides a discussion based on the students' answers. In addition to discussing the choices made and their frequency, students are encouraged to look inward to their own personal, internal response to the prompt as well as the class' cumulative response. The following questions might be included in the debrief: (a) *How did you feel about that activity? Did you feel comfortable with the responses? Why did you feel comfortable or uncomfortable?* and (b) *Why do you think it is important for teachers to recognize, understand, and deal with implicit biases?* During this dialogue, it is important for facilitators to consider that this may be the first time candidates become aware of their prejudices, so it is crucial that students feel safe to speak about their tensions in completing the activity. From the beginning of the semester, we emphasize the importance of a supportive and non-judgmental class climate through modeling, explicit discussion and group rapport-building activities.

Culminating this activity, candidates prepare a reflection essay discussing how their personal biases might have been challenged by this exercise and how the insights gained may influence their future work with students and families. As instructors, we then provide feedback about those reflections, encouraging the process of self-inquiry, critical reflection, and subsequent plans for change. While this activity highlights ethnic biases, this activity could also address other aspects of diversity like family structure, gender, and disability.

A second activity is *Check Your Assumptions*, which situates candidates within realistic scenarios and requires them to reflect on their perspectives regarding diversity. We present candidates with short classroom situations like the following: *"A parent of one of your students arrives 30 minutes late for a meeting.*

This is not the first time this parent has been late. The parent apologizes

profusely…" Teacher candidates reflect upon their initial thoughts about the

scenario after reading the following prompts: (a) *Describe who you 'picture' in*

your mind—consider the intersections of race/class/gender; and (b) *What is your*

first reaction as to why the parent is late? Next, instructors provide candidates

with a descriptor of the parent or guardian such as, "an upper middle class Latina

mother". Given additional information, candidates critically reflect on reasons why

the parent is late.

After individual reflections, candidates work in small groups to discuss their

varied responses to the initial parent descriptions and to consider potential reasons

for these descriptors, as well as their reactions to the parent being late. These

conversations help candidates uncover possible implicit biases, which could

contribute to assumptions they make about parents and families. Working in a

group also provides opportunities for candidates to see how others perceive them

and to observe differing initial perceptions based on their classmates ethnic or

socioeconomic background. Our ultimate goal with this exercise is that, through

individual and shared *critical* reflection, our candidates develop a more holistic

view of diverse students and families, which will begin to transform their work

with marginalized individuals.

Through these classroom activities, candidates' biases become explicit thus

providing opportunity to acknowledge, challenge and reflect upon this new

awareness and to consider how it informs their own cultural humility. Anecdotal

feedback from candidate participants illustrates the potentially transformative

importance of these types of activities. As one student noted, "I had no idea I

thought this way and it made me feel badly when I wrote certain labels on paper. I

wonder if I put these labels on my students'?" Another student shared:

Yes, I know that stereotypes exist in our world, but I thought that given my diverse experiences, my thoughts and ideas about these stereotypes might have changed…this class activity really made me think about how my thoughts – ones that aren't even on my surface as I know I don't treat people differently – might influence how I talk to, teach or even think about my future students.

Cultural Diversities Reflection through Case Study Reviews

An integral strategy for preparing teachers to work with diverse children and families is providing them with theoretical and empirical information, experiential learning, rich field-based activities and opportunities to reflect on the connection between the literature and practice (Kantar, 2013). Emphasizing the family's role in students' overall learning, we utilize, short case studies and simulation exercises that pose specific diversity dilemmas that again, prompt student self-reflection and reflection on varying family structures, values and functions. These case studies focus on diversity related to culture, language, race, ability, and family structure. Through small and large group interactions students are able to understand the attitudes and assumptions they hold about families from diverse backgrounds, and consider how varying family structures, culture, abilities and language affect the developmental needs of their future students and families.

Candidates' first review cases individually, then meet in small groups for shared peer reflection. Through these small group exchanges, we challenge our students to consider their peers' implicit biases and assumptions and work to support each other in understanding those biases. We also continually ask students to regroup so they work with different classmates throughout the course to ensure that they learn from as many unique perspectives as possible, necessary for their abilities to critically reflect. As an example, a specific case study we use illustrates the importance of culturally and linguistically sensitive communication between

home and school. After assessing and reflecting on an already prepared teacher communication, teacher candidates practice composing school/home communications such as a classroom newsletter or back-to-school correspondence. Candidates consider teacher tone, the language used and implicit biases within the text. This exercise provides "real-life" connections and practice to the course's cultural humility content. One student's feedback after engaging in a practice phone parent-teacher conference:

> I didn't realize how flustered I'd get when talking with parents and that I would say things that they might take as inappropriate. Practicing how a conversation might happen with a parent really helped to show me that I need to have a clear idea about why I'm calling parents and also the need to build better relationships with my families of my students so that parents believe what I'm sharing with them.

Engaging in these case study and simulation activities provides opportunities for students to conceptualize and anticipate how to work with diverse children and families.

Beyond the University Classroom Walls

In keeping CAEP's call for more field learning experiences for teacher candidates, a final strategy that goes a step beyond classroom case studies is one that requires candidates to work with children and families in the "real world". We require our candidates to meet with school communities and families whose background differs from their own. Candidates reflect again on their own attitudes and biases, but this time they must consider how the family's "different" background affects the students' developmental needs.

Home visits. The ECE course provides candidates with direct experiences with diverse families. Each candidate conducts a home visit with a family whose socio-cultural context is different from his/her own. Home visits are an effective way to engage and build partnerships with families. They are linked to multiple positive developmental and academic outcomes for children, as well as increasing parents'

confidence in collaborating with their children's schools (see Halgunseth, Peterson, Stark, & Moodie, 2009 for a review of this research). This assignment is intended to serve dual purposes in teacher candidates' preparation. First, candidates witness firsthand the unique experiences and needs of diverse children and their families, and then use this involvement to critically reflect on the children's and families' cultural frameworks with the hope of developing greater cultural humility. Second, candidates are prepared to conduct home visits as part of their practice as classroom teachers.

ECE teacher candidates select a family who is marginalized by U.S. society in a way the student is not. For example, student of White European descent who grew up in a low-income family, and thus was marginalized based on socioeconomic status (SES) will select a family who is marginalized for another aspect of their identity including race, immigration status, sexual orientation, family structure, religion, or ability. Through face-to-face interviews, meetings, and observations, candidates learn about their chosen families. In the first part of the assignment, teacher candidates describe: (a) the family; (b) why they chose the family and how the family is marginalized in U.S. society; and (c) how they will introduce themselves to the family. Candidates consider what they have in common with the family and reflect on the strengths or deficit-based assumptions that emerge prior to meeting the family. Candidates also create a list of questions to ask the family about their experiences as parents as well as about the focal child. These questions usually consist of questions regarding the family's daily routine, parenting challenges, the hopes and dreams parents have for their children, and how parents would describe their children.

The second component of the assignment encompasses an in-depth interview and observation at the family's home or neighborhood during a family event at

which multiple members of the family are present. During this visit, candidates have the opportunity to observe differing family structures, roles and dynamics, and how varied family structures can accomplish similar and important family functions. They notice how the family interacts with one another and can begin to learn about how varying cultures affect interactions and dynamics within families.

Meeting in the family's home allows candidates to immerse themselves in an otherwise unfamiliar culture providing for more contextual information and the opportunity to witness the family's funds of knowledge transmission and to gather everyday cues to make their teaching more relevant, accessible and empowering to their students (Civil, 2014). Moreover, the home visit presents the possibility of candidate transformation as the candidates' immersion forces the reconciliation of preconceived biases they may have had with the experience they have in the family's setting.

Following the home visit, teacher candidates critically reflect on what they learned from the visit and most importantly revisit their original assumptions. As one student wrote:

> …my greatest take away from this experience was not what I learned about this student but rather what I learned about myself…I have struggled to admit in [my work as a teacher], [the] stereotypes [I hold]. As a teacher in this community, I am prisoner to these stereotypes no matter how hard I try to escape them. [The home visit] experience allowed me to get to know a family as individuals, which pushed me to realize some of the things I assumed, were in reality, very untrue.

For the final component of the assignment, ECE candidates present their families' stories to their classmates and discuss what they learned and how their thinking about families transformed. Again, peers provide additional feedback as they share their experiences and reflections, further fostering candidates with opportunities to learn about various families' stories.

Community mapping activity. Using an ecological systems framework

(Bronfenbrenner, 1979), ELEM candidates engage in a community mapping activity that connects theory to practice through rich field-based exercises. The purpose of the activity is to familiarize candidates with the myriad of factors across micro- to macro-level systems that influence students' daily school experiences. This familiarity allows our candidates to relate their teaching to students' everyday contexts thus making the education experience more accessible and powerful. Based on the location of their school-based field assignment, candidates collect data to create a map of the ecological climate of their school's environment. Candidates are to ask questions regarding school demographics, school and community climate, neighborhoods, family engagement and student body of school-based teachers, students, leaders, staff, parents and community liaisons to provide a comprehensive picture of the school landscape.

In addition to providing ongoing support and feedback, instructors also continually encourage critical reflection throughout the information gathering process to unpack implicit biases and to document how school-based information collected may or may not have been considered prior to learning about the school's ecology. Finally, the assignment links candidates' understanding of how ecological systems influence teachers' perceptions of a child's development, which often reflects candidates' struggles with understanding the diversity of students and their families.

Feedback from our candidates illustrates the potential value of participating in the community mapping activity. As one candidate noted:

> The information on the district website I thought told us a lot about the school and the students that went there. But, [these] demographics of the school really only provided us a limited understanding about what really influences students' lives. Had we not done the community mapping activity, I never would have considered how district policies or even cultural practices influence how my future students might learn and develop.

The community mapping activity connects macro-level influences with micro-level

dynamics, deepening teacher candidates' understanding of the intersection of influences that impact a child's development and learning. Further, the activity encourages candidates to consider how their biases about others and their perceptions about schools may inhibit their future work and students' learning. Most notably, the assignment extends the CAEP mission of combining classroom cultural competence with field-based experiences to saturate candidates' knowledge of working with children and families from diverse backgrounds (NCATE, 2010).

Building from these Experiences: Conclusions and Recommendations

With increasing diversity among students and their families, there is a growing need for teacher candidates to develop culturally competent ways to engage children and families from various backgrounds. Above we described several activities that provide opportunities to develop cultural competence vis-à-vis cultural humility in teacher candidates by uncovering their implicit biases and reflecting on observations of differing cultural and familial backgrounds. These activities are embedded within early childhood and elementary teacher preparation courses focused on the application of theory to practice as a means to develop cultural competence.

While we have outlined the practical aspects of the activities, we believe that two features of our exercises are fundamental. First, we have threaded guided critical reflection throughout every activity. Experiences can only be transformative if they are acknowledged and reflections are continually absorbed and refined. Without critical reflection, field experiences may even deepen biases (Sleeter 2001). Throughout these course activities, candidates self-reflect individually, and engage in collaborative critical reflection with peers. Further, instructors provide ongoing feedback on candidates' attitudes and perceptions.

Through this essential medium for transforming attitudes of cultural humility, reflection provides the platform for revealing implicit biases and uncovering unknown cultural assumptions. Second, these course activities provided field-based experiences, emphasizing a basis for deepening candidates' cultural humility perspective. As some of our candidates explained, unknown implicit biases may persist without authentic experience to uncover perceptions that candidates never knew they had. Therefore the incorporation of case studies, simulation exercises, and "real world" activities heightened knowledge and challenged attitudes for working with children and families from diverse backgrounds, and thus built cultural competence vis-a-vis cultural humility for these teacher candidates.

References

Addy, S., Engelhardt, W., & Skinner, C. (2013). Basic facts about low-income children. Retrieved from the National center for Children in Poverty website: http://www.nccp.org/publications/pdf/text_1074.pdf.

Banks, J. A., & Banks, C. A. M. (2009). *Multicultural education: Issues and perspectives*. Hoboken, NJ: Wiley.

Barry, N. H., & Lechner, J. V. (1995). Pre-service teachers' attitudes about and awareness of multicultural teaching and learning. *Teaching and Teacher Education*, *11*(2), 149-161.

Bronfenbrenner, U. (1979). *The Ecology of Human Development.* Cambridge, MA: Harvard University Press.

Brown, E. L. (2004). What precipitates change in cultural diversity awareness during a multicultural course the message or the method? *Journal of Teacher Education*, *55*(4), 325-340.

Causey, V. E., Thomas, C. D., & J Armento, B. (2000). Cultural diversity is basically a foreign term to me: The challenges of diversity for pre-service

teacher education. *Teaching and Teacher Education*, *16*(1), 33-45.

doi: 10.1016/S0742-051X(99)00039-6.

Civil, M. (2014). Empowering science and mathematics education in urban

schools, *Research in Mathematics Education*, *16*(1), 79-84.

Cherlin, A.J. (2010). Demographic trends in the United States: A review of

research in the 2000s. *Journal of Marriage and Family, 72,* 403-419.

Collins, P. H. (1998). It's all in the family: Intersections of gender, race, and nation.

Hypatia, *13*(3), 62–82.

Diller, J.V., & Moule, J. (2005). *Cultural competence: A primer for educators.*

Belmont, CA: Thomas/Wadsworth.

Esteban-Guitart, M., & Moll, L. C. (2014). Funds of identity: A new concept based

on the Funds of Knowledge approach. *Culture & Psychology*, *2* (1), 31–48.

Gonzalez, M., Moll, L. C., & Amanti, C. (Eds.). (2005). *Funds of knowledge:*

Theorizing practices in households, communities and classrooms. Mahwah, NJ:

Lawrence Erlbaum Associates, Inc.

Halgunseth, L. C., Peterson, A., Stark, D. R., & Moodie, S. (2009). *Family*

engagement, diverse families, and early childhood education programs: An

integrated review of the literature. Washington, DC: National Association for

the Education of Young Children.

www.naeyc.org/files/naeyc/file/ecprofessional/EDF_ Literature%20Review.pdf

 Harlin, R., Murray, R., & Shea, M. (2007). Broadening teachers' views of diversity

through multicultural book discussions. *Childhood Education*, *83*(5), 299-303.

Henrich, C. & Gadaire, D. (2008). Head Start and parental involvement. *Infants*

and Young Children, 21(1), 56-69.

Hernandez, D. J. (2009, March). *Generational patterns in the U.S.: American*

Community Survey and other sources. Paper presented at a national conference

on children and adolescents from immigrant families, "The immigrant paradox in education and behavior: Is becoming American a developmental risk?" Providence, RI.

Hook, J. N., Davis, D. E., Owen, J., Worthington Jr., E. L., & Utsey, S. O. (2013). Cultural humility: Measuring openness to culturally diverse clients. *Journal of Counseling Psychology*.

Howard, T. C. (2010). *Why race and culture matter in schools: Closing the achievement gap in America's classrooms*. New York, NY: Teachers College Press.

Lowe, E., & Weisner, T. (2004). 'You have to push it – who's gonna raise your kids?: Situating child care and child care subsidy use in the daily routines of lower income families. *Children and Youth Services Review, 26,* 143-171.

Lynch, E. W., & Hanson, M .J. (2011). *Developing cross-cultural competence* (4th ed.). Baltimore: Brooks Publishing.

Kantar, L. D. (2013). Demystifying instructional innovation: The case of teaching with case studies. *Journal of the Scholarship of Teaching and Learning, 13*(2), 101-115.

Kendall, F.E. (2002). Understanding White privilege. Retrieved from: http://www.cpt.org/files/Undoing%20Racism%20-%20Understanding%20White%20Privilege%20-%20Kendall.pdf.

Kidd, J. K., Sanchez, S. Y., & Thorpe, E. K. (2005.) Cracking the challenge of changing dispositions: Changing hearts and minds through stories, narratives, and direct cultural interactions. *Early Childhood Teacher Education, 26*(4), 347-359.

Kirwan Institute. (2013). State of the science: Implicit bias review 2013. Retrieved from: http://kirwaninstitute.osu.edu/docs/SOTS-Implicit_Bias.pdf.

Kirwan Institute. (2014). State of the science: Implicit bias review 2014. Retrieved from: http://www.kirwaninstitute.osu.edu/wp-content/uploads/2014/03/2014-implicit-bias.pdf.

Kumar, R. & Hamer, L. (2012). Pre-service teachers' attitudes and beliefs toward student diversity and proposed instructional practices: A sequential design study. *Journal of Teacher Education, 64*(2), 162 -177.

Marx, H., & Moss, D. M. (2011). Please mind the culture gap: Intercultural development during a teacher education study abroad program. *Journal of Teacher Education*, *62*(1), 35-47.

Melser, N. A. (2006). Ain't nothin' like the real thing: Preparing teachers in an urban environment. *Childhood Education, 82*(5), 279-282.

Mezirow, J. (1990). How critical reflection triggers transformative learning. *Fostering critical reflection in adulthood*, 1-20.

National Council for Accreditation of Teacher Education, (2010). *Transforming teacher education through clinical practice: A national strategy to prepare effective teachers: Report of the Blue Ribbon panel on Clinical Preparation and Partnerships for Improved Student Learning*. Retrieved from http://www.ncate.org/Public/researchreports/NCAtEinitiatives/BlueribbonPanel/tabid/715/Default.aspx.

National Council for Accreditation of Teacher Education (2008). *Professional standards for the accreditation of teacher preparation institutions*. Retrieved from http://www.ncate.org/Standards/UnitStandards/UnitStandardsineffect2008/tabid/476/Default.aspx.

Rogoff, B. (2003). *The cultural nature of human development*. New York: Oxford University Press.

Sleeter, C. E., & Owuor, J. (2011) Research on the impact of teacher preparation to

 teach diverse students: The research we have and the Research we need, action

 in teacher education, *Action in Teacher Education, 33*, 524-536.

Sleeter, C. E. (2008). Preparing White teachers for diverse students. In M.Cochran-

 Smith, S. Feiman-Nemser, & J. McIntyre (Eds.), *Handbook of research in*

 teacher education: Enduring issues in changing contexts (3rd ed., pp. 559–

 582). New York, NY: Routledge.

Sleeter, C. E. (2001). Preparing teachers for culturally diverse schools: Research

 and the overwhelming presence of whiteness. *Journal of Teacher Education,*

 52(2), 94-106.

Swap, S. M. (1993). *Developing home-school partnerships: From concepts to*

 practice. New York, NY: Teachers' College Press.

Swidler, A. (1986). Culture in action: Symbols and strategies. *American*

 Sociological Review, 51, 273-286.

Tervalon, M., & Murray-Garcia, J. (1998). Cultural humility versus cultural

 competence: A critical distinction in defining physician training outcomes in

 multicultural education. *Journal of Health Care for the Poor and Undeserved,*

 9, 117-125.

Villegas, A. M. (2007). Dispositions in teacher education a look at social

 justice. *Journal of Teacher Education*, *58*(5), 370-380.

Walsh, F. (2003). *Normal family processes*. (3rd ed.). New York, NY: Guilford.

Walsh, F. (2012). *Normal family processes* (4th ed.). New York, NY: Guilford.

Waters, A., & Asbill, L. (2013, August). Reflections on cultural humility. *CYF*

 News:APA. Retrieved from

 http://www.apa.org/pi/families/resources/newsletter/2013/08/cultural-

 humility.aspx.

Weinstein, C. S., Tomlinson-Clarke, S., & Curran, M. (2004). Toward a conception of culturally responsive classroom management. *Journal of Teacher Education*, *55*(1), 25-38.

Weisner, T. S. (1997). The ecocultural project of human development: Why ethnography and Its findings matter. *Ethos*, *25*(2), 177–190. Retrieved from http://www.jstor.org/stable/640353.

Weiss, H. B., Caspe, M., & Lopez, M. E. (2006). *Family involvement in early childhood education.* Cambridge, MA: Harvard Family Research Project.

Zygmunt-Fillwalk, E., & Clark, P. (2007). Becoming multicultural: Raising awareness and supporting change in teacher education. *Childhood Education*, *83*(5), 288-293.

Causes of and Solutions to the Achievement Gap: Teachers' Perceptions

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Abstract

Survey results from 874 educators regarding the achievement gap are shared. The importance of the achievement gap, causes of and solutions to the achievement gap, and performance expectations for students in their schools are explored. Implications for teacher educators are discussed as related to both pre-service and in-service training programs.

Due to the impact of the No Child Left Behind Act (2002), much attention has been drawn to the fact that some sub-groups of public school students across our nation do not achieve as well as their classmates. As Anderson, Medrich, and Fowler (2007) explained, understanding the causes of achievement gaps and how to correct those causes is a very complex issue because 1) schools who have closed the gap were not necessarily the highest performing schools, 2) schools closing the achievement gap were not necessarily making AYP, 3) schools making annual yearly progress (AYP) were not necessarily closing the achievement gap, and 4)

comparisons across states were inappropriate due to the variety of state standards and assessments. The research discussed in this article was the first stage of a year-long collaborative research project. This initial phase was designed to gain insight into educator perceptions related to various aspects of the achievement gap. The results of this inquiry are important because, as Uhlenberg and Brown (2002) suggested, teachers must first examine and look beyond their personal assumptions before they can understand and act on the existing reality.

Issues Associated with the Achievement Gap

There are conflicting viewpoints explaining why the achievement gap exists. A myriad of both possible causes and solutions related to the achievement gap have been cited in the literature. Issues related to educational factors and home and community factors have all been studied.

Educational Factors

Although research has been inconclusive, reducing class size has long been suggested by educators as an answer to increasing student achievement (Grissmer, Flanagan, & Williamson, 1998). After an extensive review of the research, Ehrenberg, Brewer, Gamoran, and Willms (2001) concluded that placing more emphasis on teaching aptitudes and content knowledge of perspective teachers paid greater dividends and was more beneficial than reducing class size. As Jones, Yonezawa, Mehan, and McClure (2008) noted, efforts to improve schools that led to higher student achievement addressed needed changes in educators' beliefs, values, and attitudes; however, it was noted that these factors cannot be addressed in isolation.

Over-reliance on standardized testing has been criticized by Kohn (2001) who suggested that an overwhelming proportion of the variance in standardized scores

was due to the socioeconomic status of the students taking the test. Thus, determining why some schools have higher performing at-risk students while others do not have such success was an extremely difficult undertaking. Roderick (2001) reported that students and teachers worked harder and students were more motivated when student achievement on standardized tests was tied to grade level promotion.

Student behaviors determined by educators to be disruptive or inappropriate have also been cited by several researchers as major factors related to the achievement gap (Dee, 2005; Gregory, Skiba, & Noguera, 2010). Miles and Stipek (2006) noted that students who struggled academically often experienced frustration that led to disruptive behavior in the classroom. Dee (2005) also found that gender, racial, and ethnic differences between teachers and their students impacted the achievement gap. These differences greatly increased the probability of students being perceived by their teachers as being inattentive, of not completing homework assignments, and of exhibiting disruptive behavior. Teachers' perceptions that students seemed unmotivated or exhibited a lack of effort in the school setting has been related gaps in performance.

Home and Community Factors

In a survey of African American and Caucasian teacher perceptions, Uhlenberg and Brown (2002) reported that all teachers, regardless of race, tended to believe that income and parenting techniques were important factors that contributed to the achievement gap. In a similar study, Bol and Berry (2005) surveyed a variety of educators to elicit their perceptions. The classroom teachers in this group consistently selected nonacademic factors, student motivational levels, student work ethic, and family/parent support, whereas, teacher supervisors and university

faculty agreed that classroom instructional practices such as quality curriculum and instruction were the key factors. A study conducted by Lee and Bowen (2006) found that teachers reported lower academic achievement among students who were living in poverty, students living with parents who were less educated, and students who were non-white. A meta-analysis of the effects of comprehensive school reform on student achievement reported that between 25% and 50% of the black-white achievement gap could be attributed to parental, home, and community factors (Gorey, 2009).

Several studies have indicated that students from lower SES families were perceived to be less capable than students from higher SES families (Auwarter & Aruguete, 2008; Hamilton, Sherman, & Rulvolo, 1990; Jussim 1991, 1986). Evans and Rosembaum (2008) suggested that children living in low SES homes had more difficulty learning to control their emotions and behaviors which hindered their ability to achieve at higher levels in academic settings. Moreover, Benner and Mistry (2007) reported that the academic achievement of low SES children could be negatively affected by poor adult expectations.

Recently, researchers have found that family income was highly correlated to differences in children's development. These differences were impacted by the fact that more affluent families typically spent seven times as much on their children's development as do less affluent families (Kornrich & Furstenberg, 2013). Moreover, Evans and Rosenbaum (2008) suggested that affluent parents provided more cognitively stimulating environments for their children which were characterized by numerous opportunities for informal learning, conversations, and exposure to a greater number of books. Reardon (2013) reported that children from more affluent families typically had two parents both having college educations; in contrast, children from less affluent families were more likely living with a single

mother having a low level of education.

Closing the Achievement Gap

Heckman (2011) reported that early intervention was required to offset the economic and social disadvantages that contributed to the achievement gap. Heckman also noted that such interventions needed be begin earlier than formal schooling because the characteristics that impact this gap occurred at or before birth. Additionally, Reardon (2013), who also supported the need for early interventions, found that closing the achievement gap was multi-faceted, requiring the formation of social policies that provided family support to ensure students have stable, secure homes and neighborhoods as well as educational policies that promoted cognitive and social development.

Several researchers have used surveys to identify possible solutions that teachers believe would help close the achievement gap. A survey of Black and White teachers' perceptions of the causes and solutions to the achievement gap conducted by Uhlenberg & Brown (2002) identified four possible solutions most frequently selected by teachers that could effectively bridge the achievement gap. These included 1) provide more tutoring, after school, and summer programs for students, 2) increase use of school social workers and resource teachers to communicate with the home, 3) give teachers more training in diversity issues and sensitivity, and 4) reduce class sizes. Bol and Berry (2005) surveyed middle level and high school mathematics teachers to determine what factors they believed contributed to the achievement gap and their suggestions for reducing the achievement gap. The teacher responses were categorized into four overarching themes including, policies, professional development and teacher characteristics, curricular changes, and societal influences and community building. Some specific

responses provided by the teachers were 1) reducing class size, 2) grouping students by ability, 3) professional development for teachers related to content, pedagogy, and working with minority and poor students' families, 4) changing the curriculum, and 5) educating parents. The following research questions guided the current study:

(1) Do teachers perceive the achievement gap to be an important issue facing teachers today?

(2) What do teachers perceive to be the major causes of the achievement gap?

(3) What do teachers perceive to be possible solutions for closing the achievement gap?

(4) Do teachers believe that their students have the ability to achieve?

Method

This article reports the results of an online survey completed by teachers focusing on their perceptions and expectations of student achievement. The forced-choice survey was constructed using a modification of Uhlenberg and Brown's *Educators' Perceptions of the Achievement Gap* (2002). The findings reported here are from the first phase of a larger study analyzing the achievement gap existing in elementary and middle schools in a large Southeastern school district.

Participants

Respondents included 874 (88.4% female, 11.6% male) teachers from a large school district serving a diverse population serving both urban and rural communities. Of the respondents, 91.3% ($n=798$) reported they were Caucasian; 4.3% ($n = 38$) reported they were African American, and 4.3% ($n = 38$) reported as other. Teachers reported having 15.9 (SD=10.2) years of experience as an educator.

Measure

The online survey for this study asked respondents to identify, from a list of four issues, the most important one facing educators. Respondents were then asked to rank four different sets of four potential causes and solutions to the achievement gap using a four point Likert-scale. Finally, respondents were asked how they perceived the achievement of their students and all other students in their school.

Data Analysis

In order to answer the research questions, a simple mean was used to report the results of the survey. When educators failed to respond to an item or gave more than one item the same ranking, the results were eliminated.

Results

Perceived Importance of the Achievement Gap

According to the survey data, respondents felt the most significant issue facing educators today was the achievement gap (m=3.30, SD = 0.86). The remaining issues, in order, were teacher salaries (m=2.98, SD = 0.98), ending social promotion (m=2.13, SD = 0.97), and teacher shortage (m=2.01, SD = 1.08).

Major Causes of Achievement Gap

The survey results indicate that teachers accepted no, or limited, control over these causes. Note, even though disruptive/inappropriate student behavior was listed as a significant cause, types of discipline used by teachers were not perceived to be a significant cause of the achievement gap (See Appendix A).

Possible Solutions for Closing the Achievement Gap

Here again, the teachers chose solutions that ere outside their immediate

purview. Table 1 provides the four solutions most frequently chosen by the respondents. Similar to the responses related to causes, respondents chose possible solutions for the achievement gap that are outside the teachers' purview.

Table 1. *Highest Average Ranking for Causes of and Solutions to Differences in Student Achievement*

Items	N	M (SD)
Causes of differences in student achievement		
Parenting techniques used by the family	600	3.53 (0.78)
Students often behaving in disruptive/inappropriate manner	572	3.24 (0.95)
Lack of student motivation	558	3.09 (0.99)
Low family income level	579	3.06 (1.08)
Solutions to differences in student achievement		
Reduce class size	562	3.58 (0.77)
Make students more accountable for their performance	536	3.22 (0.92)
Make tutoring, after-school and summer school programs more available	559	3.12 (.096)
Use a method of assessment other than standardized tests for students identified as high risk	561	2.52 (1.18)

Performance Perceptions

Teachers tended to agree that the teachers in their school believe that most

students are able to master basic reading and math skills (m=3.44, SD=0.70). Moreover they tended to agree that their students will perform at about the state level in academic achievement (M=3.12, SD=0.76), and that most of their students will achieve at or above grade level by the end of the year (m=3.08, SD=0.84).

Discussion

Over all, the findings from this survey support the earlier work of Uhlenberg and Brown (2002). Of the four choices offered on this survey, teachers identified the achievement gap as more importance than teacher salaries, ending social promotion, and the teacher shortage. Clearly, the teachers in this study firmly believed the achievement gap is a significant issue facing educators today. This is critical because in order to make progress in closing the achievement gap educators must see it as an important issue.

There were four factors identified by the teachers in this study as having an impact on the existence of the achievement gap, (i.e., parenting techniques, student misbehavior, lack of student motivation, and low family income, support earlier research findings. For example, Gorey (2009) and Uhlenberg and Brown (2002), also found that educators cite parenting techniques as a contributing factor to the achievement gap. The research of Gregory, Skiba, and Noguera (2010); Miles and Stipek (2006); and Dee (2005); indicated that educators feel the gap is related more to student behavior. Roderick (2001) and Stipek's (1993) work points to student motivation. Finally, research from Auwarter and Aruguette (2008), Lee and Bowen (2006), Kohn (2001), and Jussim (1991, 1986) show a link to low family income. The findings of this study concur with the previously cited research in that the factors educators most often selected as contributing to the achievement gap were those over which they felt they had very little control.

Furthermore, the teachers polled in the current study reported that the solutions to the achievement gap had little to do with instructional skills or the type of instruction, the types of discipline used by teachers, or the need for educators to provide better reciprocal communication with the home. Instead, as seen in Table 1, these educators felt class size, student accountability, availability of tutoring along with after school programs, and the need to find an alternative to the required state tests were the key solutions. As related to class size being a solution, these findings do support Grissmer, Flanagan, & Williamson (1998), but disagree with those of Ehrenberg et al (2001). Furthermore, these findings support the position of Kohn (2001) who stated that measures other than standardized testing should also be used to determine academic progress. Again, as with the causes previously discussed, the solutions were factors over which teachers had limited control.

The analysis of the final section of the survey, Performance Perceptions, provided evidence that, as a group, these teachers believed nearly all their students, as well as the other students in the school, would perform above average on state tests. Moreover, they believed most teachers in their schools shared the same beliefs. This finding, along with the fact that they saw the achievement gap as a significant issue, is very important. Obviously, to make progress closing the achievement gap, teachers need to both acknowledge the achievement gap is an important concern and have faith that their students are capable of performing well on standardized assessments (Jones et al, 2008).

Limitations

The limitations of this research include using forced choice options for prompts which did not allow respondents to provide their own rationale for the causes of or possible solutions for the achievement gap. Partial rankings and tied rankings were

removed from the data analysis, decreasing the sample size and increasing the potential for bias.

Implications for Teacher Education

Teacher education programs are developed to meet the standards of the teaching profession which emphasize the importance of candidates' ability to continuously reflect on their practice on order to improve the educational experience for all students (NCATE, 2008). For teacher educators who work with both pre-service and in-service teachers, it should be a concern that teachers in the current study primarily looked to factors outside of the classroom for both causes and solutions to the achievement gap as opposed to seeing the significance of instruction, management, teachers' willingness to develop reciprocal relationships with families, and other teacher qualities as factors impacting the achievement gap. The authors do not suggest that teachers should see themselves as the cause of the achievement gap; however, they must see themselves as a catalyst in the creation of learning environments that will bridge this gap.

Teacher educators need to inform both pre-service and in-service teachers about research focusing specifically on the achievement gap. Teacher educators have the responsibility to ensure that teacher candidates acquire the skills needed to create reciprocal relationships with families and communities to help diminish the impact of poverty on children's ability to be successful. Teacher educators need to challenge all teacher candidates, both initial and advanced level, to look more closely at their contributions to the learning environment and the affect this may have on students' ability to achieve. Pre-service and in-service teachers must receive training that provides the needed skills in behavior management, motivational techniques, and innovative instructional methods that will support the

development of optimal learning environments for all students.

For schools to have a positive impact on closing the achievement gap, teachers must believe that they are part of the solution. The teachers in this study believed that students needed to be held more accountable for their own success. Teachers and teacher candidates should hold themselves to the same level of accountability if we are to decrease the achievement gap. Unless all teachers accept the fact that the quality of the classroom learning environment can greatly impact student achievement, teachers cannot help their students be as successful as possible.

References

Anderson, S., Medrich, E., & Fowler, D. (2007). Which achievement gap? *Phi Delta Kappan, 88*(7), 547-550.

Auwarter, A. E., & Aruguete, M. S. (2008). Effects of student gender and socioeconomic status on teacher perceptions. *Journal of Educational Research, 101*(4), 242-246.

Benner, A. D., & Mistry, R. S. (2007). Congruence of mother and teacher educational expectations and low-income youth's academic competence. *Journal of Educational Psychology, 99 (1)*, 140-153.

Bol, L., & Berry, R. Q. (2005). Secondary mathematics teachers' perceptions of the achievement gap. *The High School Journal*, *88*(4), 32-45. Retrieved from http://www.jstor.org/stable/40364254.

Dee, T. S. (2005). A teacher like me: Does race, ethnicity, or gender matter? *The American Economic Review*, *95*(2), 158-165.

Ehrenberg, R. G., Brewer, D. J., Gamoran, A., & Willms, J. D. (2001). Class size

and student achievement. *Psychological Science in the Public Interest, 2*(1), 1-30.

Evans, G. W., & Rosenbaum, J. (2008). Self-regulation and the income-achievement gap. *Early Childhood Research Quarterly*, *23*(4), 504-514.

Gorey, K. M. (2009). Comprehensive School Reform: Meta-analytic evidence of Black-White achievement gap narrowing. *Education Policy Analysis Archives*, *17*(25), 1-14.

Gregory, A., Skiba, R. J., & Noguera, P. A. (2010). The achievement gap and the discipline gap: Two sides of the same coin? *Educational Researcher, 39*(1), 59-68.

Grissmer, D., Flanagan, A., & Williamson, S. (1998). Why did the Black-White score gap narrow in the 1970's and 1980's? In C. Jencks and M. Phillips (Eds.), *The Black-White test score gap* (pp. 182-226). Washington, DC: Brookings Institution.

Hamilton, D. L., Sherman, S. J., & Rulvolo, C. M. (1990). Stereotype based expectancies effects on information processing and social behavior. *Journal of Social Issues, 46(2)*, 35-60.

Heckman, J. J. (2011). The Economics of Inequality: The value of early childhood education. *American Educator*, *35*(1), 31.

Jones, M., Yonezawa, S., Mehan, H., & McClure, L. (April 2008). *Policy brief: School climate and student achievement*. Davis, CA: Center for Applied Policy in Education, School of Education, University of California Davis.

Jussim, L. (1991). Social perception and social reality: A reflection-construction

    model. *Psychological Review, 98 (1)*, 54-73.

Jussim, L. (1986). Self-fulfilling prophecies: A theoretical and integrative review.

    Psychological Review, 93(4), 429-445.

Kohn, A. (2001). Fighting the tests: A practical guide to rescuing our schools. *The

    Phi Delta Kappan, 82*(5), 348.

Kornrich, S., &, Furstenberg, F. (2013). Investing in children: Changes in

    parental spending on children, 1972–2007, Demography, 50, 1-23.

Lee, J. S, & Bowen, N. K. (2006). Parent involvement, cultural capital, and the

    achievement gap among elementary school children. *American Educational

    Research Journal, 43*(2), 193-218.

Miles, S. B., & Stipek, D. (2006). Contemporaneous and longitudinal associations

    between social behavior and literacy achievement in a sample of low-income

    elementary school children. *Child development, 77*(1), 103-117.

National Council for the Accreditation of Teacher Educators. (2008). *Professional

    standards for the accreditation of teacher preparation institutions*. Washington,

    DC: NCATE.

No Child Left Behind Act of 2001, P.L. 107-110, 20 U.S.C. § 6319 (2002).

Reardon, S. F. (2013). The widening income achievement gap. *Educational

    Leadership, 70*(8), 10-16.

Roderick, M. (2001, February). *Truth or consequences: The impact of high stakes

    testing on students, teachers, and schools*. Lecture presented at the 23rd Annual

    Ira J. Gordon Lecture, University of North Carolina at Chapel Hill.

Uhlenberg, J., & Brown, K. (2002). Racial gaps in teacher's perceptions of the

    achievement gap. *Education and Urban Society, 34 (4)*, 493-530.

The Computer-based Writing Program: A Clinical Teaching Experience for Education Interns to Develop Professional Knowledge and Skills in Effective Instructional Writing Practices

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Abstract

The four-week university-sponsored summer Computer-based Writing (CBW) Program directed by the head of a special education initial teacher licensure program gave teaching interns opportunities to work with young struggling writers in a supervised clinical setting to address keyboarding skills, writing conventions and knowledge and application of the writing process. Following the Self-Regulated Strategy Development (SRSD instructional model, the graduate interns explicitly taught their students writing and self-regulation strategies that included self-monitoring, self-instruction, goal-setting, and self-reinforcement. The purpose of this article is to describe how through their CBW experiences, the interns acquired content and professional knowledge, tested out best instructional, assessment and technology practices and developed critical reflective thinking needed for informing their instructional practice. The CBW experience provided direct community service to children identified as at-risk learners and to their parents who learned ways they can provide ongoing literacy and learning support for their children at home.

Providing clinical experiences that develop content and professional knowledge, accepted best instructional practices, dispositions that reflect practitioner research, proficiency with technology and assessment are essential components of our university's teacher education preparation programs. Directly collaborating with our partner school systems and community-based entities is another important initiative that promotes effective university-community connections that support K-12 students and their families. Central to the clinical training of teachers and establishment of meaningful community collaborations is

our education school's Center for Literacy. This center supports in part by a charitable foundation dedicated to enhancing educational opportunities for young people in our state. The intent of this article is to describe how through their CBW experiences, the interns acquired content and professional knowledge, tested out best instructional, assessment and technology practices and developed critical reflective thinking needed for informing their instructional practice. Through this clinical experience, interns provided direct community service with children identified as at-risk learners and to their parents who learned ways they can provide ongoing literacy and learning support for their children at home.

The Computer-based Writing Program

Over a period of thirty years of writing research with students who receive special education services for learning disabilities or students recognized by their schools as struggling writers, Graham and Harris (2009) identified four factors that are essential for ineffective writers to develop to become competent writers. These factors are skills, knowledge, strategies and motivation for writing. Skills are writing conventions such as spelling, grammar, and transcription (handwriting or typing). Knowledge of writing refers to the genre, writing processes, and assignment topic. Strategies are approaches or steps taken to meet specific writing goals to produce quality compositions. Motivation, self-efficacy and developing a positive attitude are critical when developing a belief in writing ability and demonstrating a desire to write (Vue et al., 2015). Therefore, the purpose of CBW was to provide our graduate students with practical experiences that would help them determine effective ways that will help struggling writers develop skills, knowledge, strategies and motivation for writing.

Program Goals

There were three goals for the CBW program. First, graduate students would have opportunities to work with struggling writers in a clinical teaching experience. Second, to help the graduate students understand the importance of engaging in critical reflective practice when applying the researched-based strategies to their teaching, they were to learn how to document, analyze and reflect upon the ways their students develop knowledge and skills needed to become skilled, confident writers. Third, the program would bring focus to the university's promotion of literacy by providing direct community service to children identified as at-risk learners and to their parents who wanted to understand how they can provide ongoing literacy and learning support for their children at home.

Methods

Participants and Setting

The director of CBW is one of our university's teacher educators and the head of the initial licensure graduate program in Special Education-General Curriculum, K-12. Before becoming a teacher educator, she spent 30-years teaching in K-12 public schools. Because her special education teaching experience provided her opportunities to teach research-based interventions in reading and writing to students with deficits in literacy skills, and her doctoral training was in the effective uses of instructional and assistive technology, she was qualified to serve as both a mentor and trainer to the graduate interns serving as CBW instructors.

The Computer-based Writing program operated for three years (2012-2014) during the summer month of July. The CBW sessions were held Monday through Thursday, from 1-4 PM for four weeks in an iMac computer lab within the education school at the University. The interns, known as instructors, worked with

children ages 8 to 14 worked in small groups of two to four. They completed a summer reading course offered by the initial teacher licensure program for special education during the time they served as instructors. During the three summers, a total of eight instructors volunteered to work in the CBW programs to meet clinical teaching requirements the reading course. Seven of the instructors worked during the academic school year in public schools as paraprofessionals or provisionally licensed special education teachers. One instructor was a licensed elementary teacher completing the Reading Specialist program, taking the reading course for elective credit. With time spent pre-assessing students, providing writing interventions, and meeting with parents at the end of a CBW program, the instructors spent a total of 45 hours completing their clinical experiences.

The CBW director served as the lead instructor as well as handled administrative duties. Serving as both the lead instructor and director of the program was beneficial since she could model strategies with the young writers for the instructors to see. Also, because she worked alongside the instructors on a daily basis, it was easy to provide mentoring and guidance as needed.

To recruit CBW participants, administrators from the school districts worked with the CBW director to identify grades three through eight students who would benefit from involvement in the program. Because special education administrators or principals from several school districts sent letters to the parents of students they identified as having difficulties with writing, it is not known how many students were actually invited to apply. However, thirteen families of children ages 8-14 receiving special education services in their schools responded to the administrators' letters, and seventeen students in the same age range monitored by Child Study teams received interventions within their general education programs in their schools also responded. Four of those students were identified as English

Language Learners (ELLs).

When the thirty families responded to the invitation to apply, they sent the applications directly to the CBW director. All applicants were accepted, but before beginning the CBW program, an information meeting was held for the parents and their children to answer questions and tour the facility. To appropriately plan instruction, the instructors completed preliminary literacy assessments with the students to determine basic literacy skill levels. The following screening tests were: the word recognition Slosson Oral Reading Test (SORT-3), The Test of Written Spelling (TWS), running records (to determine fluency/reading comprehension) and students completed a handwritten writing sample. These types of assessments are ones typically administrated in educational settings.

While the instructors administered the screening assessments to the children, the director met with the parents to complete a multiple intelligence checklist to identify their children's preferences for learning (e.g., does your child like to draw? Does your child prefer talking to writing?). When parents were asked for their written consent to enroll their children in the program, it was explained that the university's Human Subjects Review Board had granted permission to the director to collect and analyze formative assessments, work samples, observations and program evaluation statements to determine the effectiveness of the CBW program. Although parents were given the opportunity to opt out of the study and have their children remain in the CBW program, all parents gave their permission to use study data for the purpose of sharing general information about the program and its benefits to the participants in educational conferences and/or scholarly publications.

Procedure

The three main areas of instructional focus in CBW were developing keyboarding skills, addressing writing conventions such as spelling, syntax, mechanics and grammar, and helping the young writers acquire knowledge and application of the writing process.

Keyboarding Skills. Many ineffective writers demonstrate slow, illegible handwriting when writing with paper and pencil. Students with these kinds of persistent problems often benefit from the use of computer keyboarding because typing eliminates the hand-encoding process (Graham, 2006). When keyboarding, students do not have to worry about how to form letters, pay attention to spacing between the letters or words, or even stay within the margins of writing paper. However, typing requires a different set of mental and motor skills when composing with a keyboard since it involves learning physical positioning and movement, ergonomics (safe and comfortable keyboard interaction), and key location (Zeitz, 2008). Therefore, each three-hour CBW session began with thirty minutes of keyboarding instruction and practice.

Because Crews, North & Erthal (2006) stated that it is reasonable to expect elementary students to achieve 10-15 words per minute (WPM), all CBW students began keyboarding instruction with 10 WPM at 85% accuracy set as a goal to achieve. However, specific targets were adjusted with student input, based on the students' particular skill levels and cognitive abilities.

Type to Learn (TTL) by Sunburst was used as the keyboarding application because it teaches students to spell words, write sentences and apply proper punctuation and capitalization as they learn to type. Lessons and games are designed to improve specific keyboarding skills such as speed, accuracy, and hand

coordination. The TTL program noted student progress in progress reports shared with students so they could keep track of their accuracy in keyboarding, WPM and lessons completed. Instructors also reviewed progress data to determine if the program needed to be adjusted to meet students' needs such as setting specific WPM or accuracy rates for students to advance.

Writing Groups. At the conclusion of the thirty-minute keyboarding sessions, students met in writing groups with their instructors. Groups were formed based on age. Younger groups had eight to ten-year olds working together; the middle age groups had eleven and twelve-year olds working together, and the oldest groups had thirteen and fourteen-year old students working together. Most groups had three students, but in some cases, there were four students working with one instructor.

During the group meetings, students talked about their interests and decided on topics that they wanted to make the focus of their writing. In the first summer, CBW students wrote personal narratives. In summers two and three, students chose a variety of topics to research and write about such as how to play sports, athletic heroes, musical celebrities, pets, farm animals, creating and playing computer. These group sessions lasted about twenty minutes. Students talked about their ideas, asked one another questions about their topics, and set personal goals for each day such as what they might research to find additional or clarifying information.

Strategy Instruction. An important component of the reading course instructors completed during the CBW clinical experience was strategy instruction. In the reading course, instructors were given specific knowledge about how to effectively implement TTL strategy instruction with struggling writers, but

implementing strategy instruction in the clinical experience took the interns beyond the theory and allowed them to actually implement strategy instruction with their CBW students.

The Self-Regulated Strategy Development (SRSD), a six-step writing strategies instructional model, was followed. This model encourages students to accomplish writing tasks through explicit instruction while integrating self-regulatory practices of goal setting, self-instruction, self-assessment, self-evaluation, and self-reinforcement (Graham, Harris & Mason, 2005; Reid, Lienemann, & Hagaman, 2013). SRSD helped the instructors identify their students' writing deficits to choose writing strategies that could be used to address needed skills. Instructors focused on understanding their students' attitudes about the process of writing, how their students initially felt about themselves as writers (e.g. self-efficacy- the belief in one's ability), and gauge their students' motivation to become better writers (Harris et al. 2008, p. 4). Since SRSD is not a set linear-stepped approach, it can be reordered, combined, modified, and repeated, based on students' needs. Figure 1 describes the stages of SRSD.

For CBW instructors to determine what strategies to use to meet student needs, they documented, analyzed and reflected upon the effectiveness of the interventions they used. The following questions helped the instructors take field notes (anecdotal records) that were analyzed to determine the effectiveness of their instructional approaches:

1) What types of prewriting activities are effective when students generate ideas and thoughts for writing?

2) What strategies are effective for students to use when generating text to express a central idea, add supporting details, and write a conclusion?

3) What strategies are effective for students to use when revising the text to improve word choice, sentence variation, and show writer's voice?

4) What strategies are effective for students to use to edit their writing, in particular, addressing mechanics, grammar, and style?

5) In what ways do students choose to make their writing appealing, interactive and engaging to readers?

Writing Conventions. As noted in Figure 1, during SRSD stage 1, it is important to identify background knowledge and skills of the students to help them achieve writing goals. In addition to determining if students could express their thoughts in complete sentences and write cohesive paragraphs, CBW instructors noted how their students applied spelling, syntax, mechanics and grammar. Misspellings, incorrect grammar, run-on or incomplete sentences were the most common writing deficits that the instructors identified. When ineffective writers see such errors highlighted in red ink on their school composition assignments, they tend to develop self-doubt about themselves as writers, and express negative expectations about their abilities to learn to write effectively (Harris et al. 2008, p. 3 and 11). Therefore, it was important that attention focused on students' accomplishments to build self-efficacy.

The Writing Process. Goal setting is one important aspect of SRSD stage 2 (see Table 1). Struggling writers need to learn to set goals, monitor and manage their writing. The CBW instructors noticed that when their students wrote their initial screening drafts, they did not appear to spend time thinking about how to respond to a writing prompt or organize and revise their writing to address content and meaning. These observations reinforced the need for the CBW students to learn that writing is a recursive process. Students need to revisit each step of the writing

process to generate ideas, add, rearrange, remove, replace and revise before

publishing. Through CBW, instructors experienced how their students struggled

with rules and mechanics of writing. When focusing on purpose and goals,

organization, and conveying their message to an intended audience, it appeared too

much for some students to handle because writing requires extensive self-

regulation and attention control.

Table 1. *The Stages of the SRSD Model*

Before teaching any strategies to students, the instructors evaluated their students' skills (e.g., task-analyzed writing skills to determine if students were able to write and spell with reasonable fluency. Noted were basic writing conventions and sentence/paragraph structures such as opening sentences, supporting details, wrap-up or conclusion to the paragraphs.	
Stage 1: Develop and Activate Background Knowledge	Instructors talked with students about the importance of increasing knowledge about how to write successfully. The purpose of writing and what pre-skills may be needed to achieve a writing goal as well as what it means to develop self-regulation (the ability to monitor and control one's own behavior) were stressed.
Stage 2: Discuss the Strategy	Instructors talked with their students about the strategies that may work for them. Instructors collaborated with their students to identify and develop writing tools that were specifically made to help guide them through the writing process. (e.g., K-W-L chart, electronic web, or a self-designed graphic organizer).
Stage 3: Model the Strategy	Instructors talked aloud as they modeled the steps of a strategy, describing what should be done next, how to do each step, and when the strategy should be used.
Stage 4: Memorize the Strategy	Instructors taught students to repeat memorized steps and procedures of particular strategies. For example, when using the RAP strategy to locate information for their writing, students would say, "First I read a paragraph. Then I ask myself 'What is the main idea?' Next I put the idea into my own words."
Stage 5: Support the Strategy	Instructors practiced using the strategy with their students collaboratively in order to support the implementation of the strategy. When referring to strategy guides, instructors would ask, "What step is next?" The goal was to provide support and guidance as needed, but to also work toward

	decreasing support in order to promote independence.
Stage 6: Independent Performance	Instructors kept field journals to note and reflect upon direct observations and examples of their students' abilities to independently apply the strategies they were being taught to use. During parent conferences, instructors encouraged the parents to ask their children how they were applying the strategies in different writing assignments in their classes at school, and become actively involved in supporting the use of strategies when their children complete homework.

Table 1 describes SRSD stage 3 as a time to analyze and discuss writing strategies. Instructors modeled the strategies designed to guide students through the writing process. They also encouraged their students to become collaborative partners and actively involved in deciding on adjustments to make or determining if a change in strategy was needed. Once ways were found to be effective, instructors transitioned to SRSD stage 4 as described in Figure 1 to help their students memorize strategy steps. In SRSD stage 5, prompts, guidance and reminders helped the young writers reach SRSD stage 6 when they demonstrated independence, using the strategies on their own.

Because CBW placed an emphasis on putting responsibility for the learning in the hands of the students, setting goals and teaching the young writers to identify their self-rewards, the instructors promoted student-centered learning and self-regulation.

Accomplishments

Since the CBW clinical experience provided instructors opportunities to inquire systematically into, reflect upon, and improve their instructional practice, instructors made daily journal entries and engaged in critical reflective analyzes to determine the ways CBW participants met program and individual goals. When

the 4-week CBW clinical experiences ended, instructors noted that students demonstrated more awareness of their thought processes than when they first started the program. Students also appeared much more willing to learn new skills and strategies, and they became less reliant on their instructors for direct guidance as they progressed through the program. In other words, instructors stated that their CBW students appeared in control of their learning and exhibited more confidence in their writing abilities. Specific examples of self-directed learning are the following:

Self-monitoring. Students kept track of their progress by using their planning sheets (charts, webs, or graphic organizers) that they had created, referring to their notes, words or phrases to help them construct sentences in their writing.

Self-instruction. Students talked themselves through a task or activity. An example of this occurred when in response to an open-ended question an instructor asked a specific question about a character, a famous athlete, the student responded, "I don't know the answer to that. But I can look it up!" Then the student proceeded to talk himself through the process of using a Web browser, choosing search words based on his topic, and then he read aloud information that he found, repeating key words and phrases as he wrote his sentences to add details to his writing.

Goal setting. Students showed signs of taking ownership of their work, identifying what they wanted to accomplish and how they would achieve it. An example of this happened when a student missed two days of CBW sessions due to illness. When he returned to CBW, he came 30 minutes early. When asked how he was feeling, he responded, "Oh, I am OK now. But I am so behind! I need to catch up!" Surprised by this response, the instructor asked him what he meant by that. He

replied, "I wanted to be on [Type to Learn] lesson eleven by now." It was apparent that this student had established a particular progress goal for himself, and it was important to him to achieve it.

Self-reinforcement. When developing goals, it is important that students reward themselves when reaching or exceeding a criterion. The CBW instructors encouraged self-rewards in a variety of ways. Most students chose to mark off tasks listed on their planning sheets; others stated that they wanted extra time to spend illustrating their writings using a freeware paint program. In most cases they seemed to enjoy sharing their work with their CBW peers, obtaining feedback and getting "kudos" from their peers for their accomplishments.

To determine the effectiveness of processing writing interventions, the following questions guided instructors as they recorded observational notes and comments made by the CBW students:

Question 1) What types of prewriting activities are effective when students generate ideas and thoughts for writing?

Instructors spent time talking about how to collect and extend ideas for writing. Students were asked to explain what they learned from researching their topics, and when responding, they were encouraged to speak in complete sentences. In particular, "talk it out" strategy was important to employ with the English Language Learners. In some cases, if students demonstrated poor working memory, instructors wrote on index cards words or phrases the students uttered. The students used these cards to help them recall main ideas or facts to include in their writing.

Freewriting (quickly jotting down ideas, words or phrases) was also found to be

effective with quick thinkers who did not demonstrate constraints in handwriting.
But most students had trouble generating a topic of interest to them. The most
effective brainstorming strategy used with these students was the Word Association
Strategy. The director first modeled this strategy, and then instructors used it
during small group sessions (See Table 2).

Table 2. *The Pre-writing Word Association Strategy*

Instructor Prompts	Student Responses
Close your eyes, relax. Try to clear your mind of any thoughts…. It is hard to think of nothing at all, isn't it? Anything pop into your mind? Type one word that comes to mind.	Summer
When you think of summer, what two words come to mind?	hot - beach
When you think of hot, what two words come to mind? When you think of beach, what two words come to mind?	sand air - water swim
When you think of sand and air, what one word comes to mind? When you think of water and swim, what one word comes to mind?	burning- cool
When you think of burning and cool, what one word comes to mind?	Fun
Let's take a look at what you wrote. The first word is summer, followed by hot beach. How can you use these words in an introductory sentence? How can you use the next words (sand, air, water swim, burning,	Summer Hot beach Sand air water swim

cool) in supporting detail sentences to talk about summer on a hot beach? How can you use the last word, fun, in a wrap-up sentence that ends the paragraph?	Burning cool Fun
We went to the beach last summer when it was really hot. The sand and the air were burning hot. We jumped into the water and went for a swim. Then we felt nice and cool. Going to the beach in summer was a lot of fun. I want to go again!	

The CSPACE strategy (see Table 3) helped students generate story elements when writing personal narratives (Harris et al., 2008, p. 127-129). As a whole group activity, students spent time retelling their versions of the Three Little Pigs. The web development program, Kidspiration (see www.inspiration.com), was used to create a visual image (Web) of characters, events, the conclusion and identify what the characters may have felt as the story unfolded. Instructors asked, "How do you want the reader to feel as they read your story?" To help their students think about their audience.

Table 3. *A CSPACE Planning Guide*

Title		
Characters	Main character:	Other characters:
Setting	Place:	Time:
Problem And/or Purpose	Problem:	Purpose:

Actions	Beginning	Middle
Conclusion	Ending	
Emotions	How are the characters feeling?	
	What feelings do you want the audience to experience reading the story?	

Students used a K-W-L chart to track what they already knew about their topic, what they wanted to know when researching their topic, and then what they learned from researching their topic. K-W-L not only served as a prewriting strategy to tap into prior knowledge, but students also re-wrote the questions into statements.

Based on what the CBW students stated as topics of interests, instructors found Web sites that had appropriate content presented at their students' reading levels. To direct students to appropriate Internet sites, Portportal.com was used to create group sites that contained a subfolder of URLs dedicated to each student within the group. Based on observed need or requested help, instructors guided students to desired information about their topics using the Internet resources. However, students needed to learn how to take notes (not copying and pasting text from Web sites). Instructors reviewed the Collaborative Strategic Reading (CSR) approach module on IRIS Center (http://iris.peabody.vanderbilt.edu/module/csr/) to find strategies that would help their students identify the most important idea in a section of text that they were reading. The Getting the Gist strategy prompted students to identify the most important person, place, or thing in the reading section (usually a paragraph) and then re-state in as few words as possible the most

important idea of the reading section. Once students re-stated what they had learned, they were directed to write what they had just orally rehearsed. Another strategy, RAP, was used as a quick reminder to students to: Read (as you read, think about what the words mean); then Ask (what are the main ideas and details of the paragraph?), and Put (put the main idea and details in your own words).

Question 2) What strategies are effective for students to use when generating text to express a central idea, add supporting details, and write a conclusion?

Several other mnemonics were used to help students write and revise the text. For example, the POW-TREE strategy helped students organize their notes for writing (Harris et al., 2008, p. 160-161). The POW mnemonic guides students to P-pick an idea; O-organize notes such as creating the web or graphic organizer; and W- write more. If the student wanted to tell his audience what he believes about his topic, then the mnemonic TREE was followed:

T- Does the topic sentence introduce the main idea?

R- Are there reasons given that support the topic sentence?

E- Explain more about each reason to add supporting details.

E- Is there an ending statement that wrap-ups the paragraph or composition?

The peer collaborative process model was found quite effective in helping students generate ideas and identify needed details. When instructors met with their writing small groups to talk about their writing they first asked students to state what they liked about a peer's writing and then offer "I wonder" statements such as, "I wonder what you meant by…" This type of interaction helped students generate ideas for writing, supply missing details or re-write confusing statements to make their writing clearer and more interesting to others. When students identified what

they liked about their peers' compositions, students became aware of an audience.

Question 3) What strategies are effective for students to use when revising the text to improve word choice, sentence variation, and show writer's voice?

Instructors found the 6+1 Trait Writing approach to be most effective when helping students revise the text. The six traits listed on the writing guide were: Ideas (the meaning and development of the writing)**;** Organization (beginning, middle and end)**;** Voice (the way the writer expresses himself in writing)**;** Word Choice (the words and phrases used to make the writing interesting)**;** Sentence Fluency (the way the words and phrases flow within the text); and Writing Conventions (correctness of the writing). The rubric, Essay Rubric: 6+1 Writing Trait Model, from ReadWriteThink.org, helped students focus on writing trait criteria.

The seventh trait, Presentation, refers to the overall appearance of the writing. By using word processing, the students found reading their work on the monitor was much easier than reading their handwritten notes. Students also stated they enjoyed using the freeware paint program, TuxPaint, to create illustrations that added visual context to their ideas.[3]

Question 4) What strategies are effective for students to use to edit their writing, in particular, addressing mechanics, grammar and style?

Personalized editing checklists served as reminders to students to pay attention to writing conventions or writing tasks. For example, editing checklists contained reminders to use available writing resources such as the spelling and grammar tools in Microsoft Word. Older students expressed interest in knowing the readability level of their writing when the Readability Statistics window appeared after they

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[3] See http://www.tuxpaint.org.

ran a spelling and grammar check of their work.

Hearing their text read back to them was another effective way for students to note inconsistencies in their writing or areas that needed to be addressed such as grammar, punctuation, or misspellings. To take full advantage of the iMac's accessibility feature Text-to-Speech, instructors selected the students' preferred voice and speaking rate. When students highlighted their text and pressed the Option + Esc keys, the computer read the text. The ELL student preferred this Text-to-Speech feature because they needed Internet pages read to them when researching information.

Question 5) In what ways do students choose to make their writing appealing, interactive and engaging to readers?

The students who composed personal narratives used an online publishing program that is now called Lulu, Jr. to create paperback books containing their stories. Students copied and pasted their fully revised text from their Microsoft Word documents into the program's text fields, added images and their artwork[4].

TuxPaint was also used to illustrate the expository text, but also, images saved as jpegs used with the application Softchalk created web-based content[5]. Students added YouTube movies; text annotations called text poppers to define words and phrases, and interactive activities such as quiz questions, crossword puzzles, drag and drop, labeling or matching activities to make their text interactive. For example, a student raising a steer for a 4-H project spent his time researching information about the origin and breeding practices of cattle. When sharing his work with his peers, the instructors noted how excited he was to see if they could

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[4] See www.lulujr.com.
[5] See www.softchalk.com

label the parts of a steer. The instructors stated that when students added activities to their writing and then watched how their peers interacted with their text, it appeared to promote a sense of audience (See Figure 1).

Labeling Activity

Drag the labels from the bottom to the correct slots.

Pins | Topline | Chest Floor | Hocks | Barrel | Poll

Press SPACE to switch between labels, ENTER to drop   Re-start

In this picture you see an Angus bull that is black and polled. Its name is Bushwhacker from Eerrer Farms. It is four years old.   Eerrer Farms breeds the cows. A normal Angus bull weighs 1,400 to 1,500 pounds. But this bull looks like about 1,425 pounds. Do you know the parts of a cow?

Figure 1. Activity from *The Angus Breed*

Finding images on the Internet, creating illustrations and incorporating interactive elements into their writing also helped the English Language Learners develop some skills such as oral expression and understanding English vocabulary. For example, one student wanted to learn more about the American Eagle and why it is the emblem of the United States. As she found an image from the Web, she asked, "What do you call this?" An instructor responded, "It is an American Eagle emblem." A discussion followed, focused on the meaning of the word "emblem" and the fact that it stands for freedom. When asked to put what she learned in a sentence, the student orally stated then typed, "The bald eagle emblem means freedom." She used the picture she found on the Internet and then typed a sentence about it in a photo album activity she created for her Softchalk interactive writing on Bald Eagles (See Figure 2).
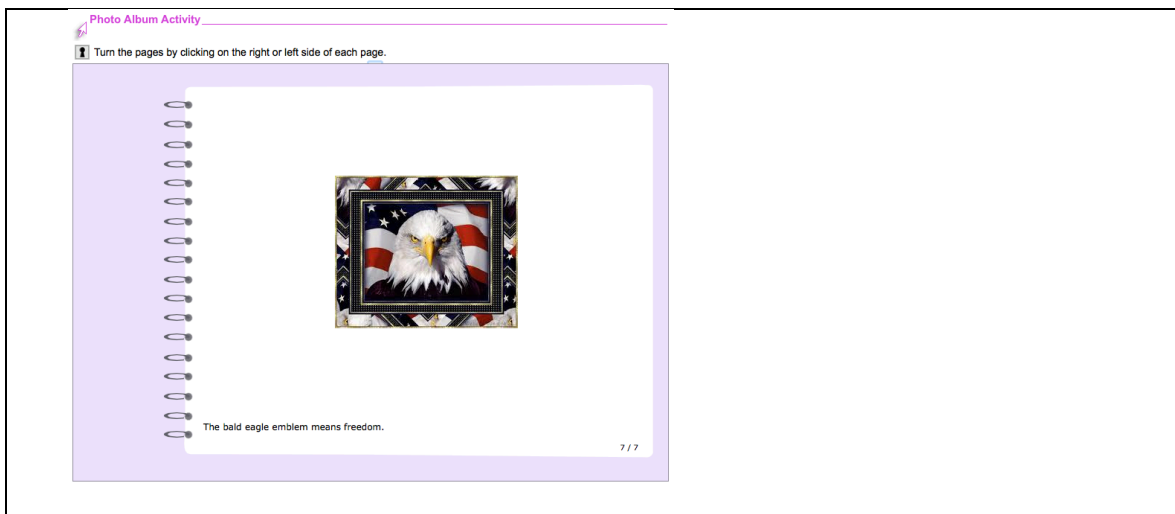
Photo Album Activity

Turn the pages by clicking on the right or left side of each page.

The bald eagle emblem means freedom.

7 / 7

Figure 2. Activity from *The Bald Eagle, the National Bird of the U.S.A.*

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Final Thoughts

When asked to evaluate their CBW experiences, the instructors stated they appreciated the CBW clinical experience that allowed them opportunities to try out literacy strategies they learned in their reading course. Based on field notes made by the CBW director, the analysis of the instructors' journals that documented observations and conversations held with CBW students, the director concluded that the instructors met the intended clinical experience goal that instructors acquire content and professional knowledge as they implemented best instructional, assessment and technology practices. For example, instructors stated that their anecdotal records were invaluable when creating progress reports that detailed strategies found to be effective for each CBW student. When instructors held conferences with the parents to review the reports and encourage parents to share the information with their children's teachers, they gained experience communicating with parents as they explained how the parents' ongoing support to use those strategies at home could help their children complete homework.

Upon review of instructors' journal comments and their final report reflections,

the director concluded that instructors demonstrated critical reflective thinking that informed their instruction. Also, the observed writing behaviors and work produced by the CBW participants followed the SRSD approach, showing a variety of effective reading and writing strategies that support the writing process.

Instructors noted that learning to type was also beneficial because once the students developed proficient keyboarding skills, they were free to think about composing rather than typing. Having their text in electronic format made it easy for students to add, delete, rearrange text, and use the spelling and grammar check tools as well as Text-to-Speech features to edit their work. Also, instructors reflected that their students learned to apply self-regulation skills as they set personal writing goals, followed reminders to use writing strategies, and then monitored their progress.

At the end of the program, an Open House was held so that CBW instructors and their students could demonstrate writing strategies and showcase completed work. Not only did extended family members come, but also community members attended. For example, a hearing specialist from the local school system wanted to see what one of her students had accomplished. This event not only brought focus to the university's promotion of literacy and direct community service to at-risk learners, but it also helped strengthen university-community collaborations with the local school systems.

References

Crews, T., North, A., and Erthal, M. (2006). Elementary/middle school keyboarding strategies guide (3rd ed.). National Business Education Association: Reston, VA.

Graham, S. (2006). Writing. In P. Alexander & P. Winne (Eds.), *Handbook of*

Educational Psychology (pp. 900-927). Mahwah, NJ: Lawrence Erlbaum.

Graham, S., Harris, K. R., & Mason, L. (2005). Improving the writing

performance, knowledge, and self-efficacy of struggling young writers: The

effects of self-regulated strategy development. *Contemporary Educational*

Psychology, *30*, 207-241.

Graham, S., Harris, K. R., (2009). Almost 30 years of writing research: Making

sense of it all with *The Wrath of Kahn. Learning Disabilities Research &*

Practice, 24, 58-68.

Harris, K.R., Graham, S., Mason, L.H., & Friedlander, B. (2008). *Powerful Writing*

Strategies for All Students. Baltimore, MD: Brookes.

ReadWriteThink. (2015, September 25). Essay rubric: 6+1 writing model [file].

Retrieved from:

http://www.readwritethink.org//files/resources/lesson_images/lesson398/rubric-

essay2.pdf.

Reid, R., Lienemann, T., Hagaman, J. (2013). The self-Regulated strategy

development model. In K.R. Harris & S. Graham (Eds.), *Strategy instruction*

for students with learning disabilities (pp. 32-42). New York, NY: The

Guilford Press**.**

Vue, G., Hall, T., Robinson, K., Ganley, P., Elizalde, E., & Graham, S. (2015).

Informing understanding of young students' writing challenges and

opportunities: Insights from the development of a digital writing tool that

supports students with learning disabilities. *Learning Disability Quarterly*, 1- 12.

Zeitz, L. (2008). A new look @ research-based keyboarding instruction [White

paper]. Retrieved from:

https://keyboarding.wordpress.com/category/research/when-to-teach-keyboarding/.

Striving to Enact the Professional Development School Philosophy: George Mason University's Elementary Education Program

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Abstract

Standard 2 from the Council for Accreditation of Educator Preparation (CAEP) Standards focuses on the importance of partnerships between P-12 schools and universities to enhance student learning and teacher candidate preparation. In the midst of discussions on how to improve partnerships between P-12 schools and universities, this article adds to the conversation, describing how George Mason University's elementary education program engages in school-university partnerships. This article presents the Professional Development Schools (PDS) philosophy as a framework for supporting school-university partnerships. More specifically, this article seeks to describe how the PDS philosophy is enacted in George Mason University's elementary education program. The authors identify the process for schools joining their PDS network and explain the elements that are foundational to their collaboration with P-6 partners. Additionally, the article describes the formal roles and responsibilities between George Mason University and their school partners and how these roles enhance collaboration. The article concludes with the benefits and hurdles that George Mason University has encountered in enacting the PDS philosophy.

In recent years, national organizations in teacher preparation have called for more focused attention to systematic, reciprocal partnerships between university teacher education programs and P-12 school districts (Association of Teacher Educators, ATE, 2000; Council for Accreditation of Educator Preparation, CAEP, 2015; National Council for Accreditation of

Teacher Education, NCATE, 2010). The success of these partnerships is critical for both institutions. Teacher education programs provide pedagogical content knowledge (Shulman, 1986) and theoretical foundations for candidates, whereas P-12 schools provide candidates real-world contexts for enactment of their learning (Holmes Group, 1986). Similarly, school districts need to hire job-ready teachers, and districts' engagement with university partners gives them a stronger voice in teacher preparation.

Recent shifts to a clinically based model of teacher preparation further highlight the importance of purposeful partnerships between P-12 schools and teacher education programs (CAEP, 2015; Darling-Hammond, 2014; Zeichner & Bier, 2015). The Professional Development Schools (PDS) model provides a framework for supporting robust partnerships between universities and P-12 schools (Kolpin et al., 2015). In this article, we first establish the importance of clinical preparation in teacher education. Next, we describe PDS as a philosophy. Then, we explain how George Mason University's elementary education program enacts the PDS philosophy. Finally, we discuss the benefits and hurdles we experience in this enactment.

Clinical Preparation in Teacher Education

The importance of situating teacher preparation in P-12 school contexts is rooted in Dewey's laboratory schools model of the late 1890s, which provided a university-based classroom setting for future teachers to test theory and educational practices (Hausfather, 2001). One of the critiques of the laboratory school model is that it presents an idealized context for teaching that is not indicative of many public school settings. The Holmes Group (1986, 1990), expanding on the idea of the laboratory school model, released their seminal reports outlining their recommendations for stronger collaborative partnerships between teacher education programs and P-12 schools through the formation of PDSs. PDSs are distinctive partnerships where university faculty, teacher candidates, veteran teachers, and K-

12 students engage in learning, studying, and researching together as a collaborative community (Book, 1996; Hammerness et al., 2005; Neapolitan & Levine, 2011). PDS partnerships, with their focus on innovation, represent a mutually shared endeavor to create high-quality field experiences, prepare teacher candidates, and positively impact P-12 learning (Castle, Arends, & Rockwood, 2008; Castle, Fox, & Fuhrman, 2009; Castle, Fox, & Souder, 2006; Kolpin et al., 2015).

Following the Holmes Group's (1986, 1990) reports, national organizations created standards delineating their interpretation of key elements of PDs partnerships. In 2001, NCATE outlined and defined PDS structures as "innovative institutions formed through partnership between professional education programs and P-12 schools" (p. 1). NCATE identified five standards for PDS work:

1. Recognition of PDS as an integrated, inquiry-based learning community

2. Ongoing assessment of impact on students, school, and community

3. Collaboration through shared roles in endeavors that impact teacher preparation and student learning

4. A focus on equity and meeting the needs of diverse learners

5. Partnership infrastructure including shared roles and responsibilities

The National Association of Professional Development Schools (NAPDS), formed in 2005, outlined their interpretation of PDS in their release of the *Nine Essentials* in 2008:

1. A shared mission broader than any one stakeholder

2. A commitment to teacher preparation

3. Reciprocal professional development for all stakeholders

4. Reflective practice

5. Sharing of results of action research/inquiry

6. Articulation of the responsibilities of all stakeholders

7. Shared governance structures

8. Formalized roles across contexts

9. Shared resources

Most recently, CAEP (2015) recommended that programs create strong partnerships and high-quality clinical experiences. Standard 2 outlines guidelines for building partnerships that are mutually beneficial and that ultimately enhance student learning. More specifically, Standard 2 calls for high-quality field experiences across teacher preparation programs, shared engagement in program development, and selection of high quality mentors for teacher candidates.

Understanding PDS Terminology

Clearly defined roles and responsibilities across stakeholders are essential elements of PDS work. Most teacher preparation programs rely on interactions among the triad of teacher candidates, school-based teacher educators, and university facilitators (ATE, 2000). The school-based educator, also referred to as the practitioner, mentor, or clinical faculty (ATE, 2000; Rust & Clift, 2015; Zeichner & Bier, 2015), must be a trustworthy content and pedagogical expert who intentionally and consistently facilitates desired learning outcomes for teacher candidates (Linton & Gordon, 2015). In PDS contexts, this mentor must be trained in supervision, aware of the goals of the experience, and have holistic knowledge about teacher education (ATE, 2000). To ensure meaningful experiences, the selection of high-quality mentor teachers in PDS partnerships is critical (Zeichner & Bier, 2015).

Similarly, university-based teacher educators must be involved in these clinical experiences and support not only the teacher candidate, but also the mentor teacher (ATE, 2000; Zeichner & Bier, 2015). Slick (1997) refers to the university facilitator as a "gate-keeper" whose responsibilities to "the triad" include connecting theory and practice, facilitating discussions among stakeholders, and addressing concerns that arise. In addition,

Slick (1997) emphasizes the difficult position university facilitators' face and argues that the role of the university member is critical for collaboration in the partnership. In PDS contexts, the university facilitator also experiences professional development through their consistent engagement in P-12 classrooms.

A key distinction between the triad in traditional teacher preparation programs and those in PDS contexts is that the roles are formalized and given specific expectations for participation in shared contexts. In addition, the triad is often pushed beyond typical expectations for the role by additional layers of support typically seen in PDS partnerships. For example, PDS programs often have a site-based teacher who serves as the point of contact for the university and conversely a university-based liaison who is the conduit for communication from the university to the school. Regardless of role, all participants have opportunities for pedagogical growth as a result of their multidirectional engagement in PDS work (Rust & Clift, 2015). Furthermore, all have clearly delineated pathways for engagement within the partnership network.

The Purpose of the PDS

With foundations in the constructivist learning theory, the PDS philosophy focuses on supporting all stakeholders in reciprocal learning and mutual benefits (Book, 1996; Linton & Gordon, 2015; Neapolitan & Levine, 2011). Through the use of field experiences, the PDS provides opportunities for stakeholders to engage in pedagogical discourse, shared visioning, and implementation of instruction in varying contexts (ATE, 2000; Hollins, 2015; NCATE, 2010). Understanding that learning for candidates is socially and culturally constructed, university facilitators and mentor teachers engage in epistemic practices by reevaluating and planning opportunities for each candidate (Linton & Gordon, 2015). Sustaining these effective learning experiences must rely on coherence, continuity, and consistency.

The basic tenets of PDS structures create opportunities for collaboration that support

teacher candidate and P-12 student learning. In PDS sites, teacher candidates are afforded opportunities to connect educational theories to practice in a classroom setting above and beyond traditional models of school-based experiences. For example, a common outcome of PDS partnerships is the situating of university courses in the P-12 school to draw on the expertise of teachers and connect courses with current curriculum (Hollins, 2015; Rust & Clift, 2015; Zeichner & Bier, 2015). PDS sites provide candidates with careful, systematic observation opportunities and guided practices in applying key elements of teaching under the expertise of trained mentor teachers. Frequent, sustained, and long-term collaborations by university based educators in PDSs allows for richer feedback, while simultaneously providing continuity and reflection time to the candidate (ATE, 2000; Rust & Clift, 2015; Zeichner & Bier, 2015).

PDSs provide the collaborative structures necessary for designing meaningful experiences for teacher candidates (ATE, 2000; CAEP, 2015; Kolpin et al., 2015; Linton & Gordon, 2015; NAPDS, 2008; NCATE, 2010; Rust & Clift, 2015; Zeichner & Bier, 2015). As the field of teacher education continues to develop more systematic approaches to educating future teachers in clinically based programs, PDSs are increasingly recognized as one approach that supports this mission. In the sections that follow, we outline how the George Mason University elementary education program exemplifies the PDS philosophy in action.

How George Mason University's Elementary Education Program Enacts the PDS Philosophy

George Mason University's elementary education program has been guided by the PDS philosophy since 1991. Currently, our PDS Network includes 30 elementary school sites in four school districts. Every four to five years, schools have the opportunity to apply to the PDS Network. The application process includes evidence of school commitment to partnership, to ongoing professional development, and to supporting a minimum number of

teacher candidates each semester. In our most recent application cycle, we created multiple

pathways within which schools could choose to engage with our program as partner sites,

clinical practice sites, or collaborative inquiry sites. Partner sites work with early field hours

students, and clinical practice sites work with interns. Collaborative inquiry sites have a

faculty member onsite once a week and work with yearlong interns. These differentiated

pathways to partnership (see Parker, Parsons, Groth, & Brown, in press for an expanded

description of the pathways) were created to provide flexibility to all stakeholders and allow

for responsiveness based on unpredictable contextual changes that have a significant impact on

partnership work (e.g., changes in administration, staff turnover, university faculty resources).

Regardless of partnership pathway, two elements are foundational to our collaboration with

school: (a) close collaboration with local schools and school districts, including collaborative

structures and shared governance and (b) extended clinical practice that is closely supervised

and aligned with coursework.

Collaborative Structures

Formal roles and responsibilities across our school-university partnerships include:

- Program Coordinator – the elementary program coordinator leads the network by
  organizing and facilitating all aspects of the elementary program and the PDS
  network.
- University Facilitators – elementary education faculty members and adjuncts serve as
  university facilitators. Faculty members serving as university facilitators work with
  collaborative inquiry PDSs and receive a one-course credit in their teaching load. Six
  out of seven adjunct university facilitators are former elementary school
  administrators. University facilitators work with specific PDS sites in the network. In
  this role, they spend one day a week at the school supervising teacher candidates,

cultivating relationships with school faculty, participating in professional development activities, and engaging in inquiry.

- University Facilitator Liaison – one university facilitator, who is *not* a university faculty member, serves as a liaison between district leaders and attends all elementary education program meetings and PDS associated events. As a former school administrator in the area, he brings a unique lens and perspective to implementing the PDS framework.

- Site Facilitator – each PDS has a school-based site facilitator. The site facilitator serves as the liaison between the school and university. Along with the university facilitator, the site facilitator organizes placements for teacher candidates and is a point of contact for teachers and teacher candidates for information regarding the PDS partnership. Site facilitators receive a stipend for serving in this role.

- Advanced Mentor Teacher – school-based teachers who host and mentor teacher candidates; all advanced mentor teacher complete a three-credit hour teacher mentoring course developed to prepare teachers in the new PDSs to supervise teacher candidates.

- Mentor Teachers – school-based teachers who host and mentor teacher candidates.

In addition, to further ensure close collaboration that is mutually beneficial, we have created a structure of shared governance that includes: (a) an advisory board, (b) regular meetings with school-based site facilitators and university facilitators, (c) principal breakfasts, and (d) university facilitator meetings located at rotating PDS sites.

The advisory board is composed of university faculty, school system administrators, school administrators, practicing school-based teachers, teacher candidates, and community/business partner representatives. The advisory board meets three times a year. In addition, advisory board members participate on one of three working groups (i.e., research, field hours, and diversity) that communicate, plan, and act between formal meetings.

Additionally, the network includes regular meetings of site facilitators and university

facilitators. These joint meetings occur four times throughout the academic year. They bring together all the site facilitators and university facilitators in the network with the primary goals of sharing effective practices, cooperatively addressing any difficulties, and planning for the enhancement of our collaborative work. Similarly, the network hosts a principals' breakfast. The purpose of this gathering is to bring together the school leaders of each of the PDSs in the network to reflect on the mission and progress of the network, share effective practices and successes, address any concerns or issues, and plan for continuous improvement. Finally, all university facilitators meet monthly to discuss their work within their PDS sites. The previously described meetings include leaders across the entire network.

Beyond meetings for all stakeholders, each PDS has school-based PDS leadership team meetings that include an administrator, the site facilitator, the university facilitator, an advanced mentor teacher representative, a teacher candidate representative, and others as determined by the PDS. These meetings occur at least annually in each PDS. One PDS, for example, holds one school-based leadership team meeting in the fall semester to set a common understanding of who the teacher candidates are, where they are placed throughout the year, expectations for all stakeholders involved, review of specific initiatives (professional development and/or research), and schedule dates and times for PDS events throughout the year. Then this PDS holds a school-based leadership team meeting again at the end of the school year to reflect and plan for the next academic year. By consistently bringing together key stakeholders in the network both at the large and local levels, we are able to capitalize on the collective expertise of the participants, address difficulties collaboratively, and maintain consistent excellence throughout the network.

Extended Clinical Practice

In addition to collaborative structures and shared governance, another core value of our program is extended clinical experience that is closely aligned with coursework. Each course

in our program is accompanied by 15 hours of fieldwork, during which students conduct structured observations and field-based assignments such as conducting a series of literacy assessments with a struggling reader and designing differentiated lesson plans for the student. In the final year of our program, students complete either a yearlong internship or a semester-long internship at one of our PDSs. The yearlong teacher candidates begin their internship during the week before the students return to school. Their internship continues through the last teacher workday of the school year. During their year in the schools these teacher candidates have extended time to hone their skills in all areas of planning, instruction, management, assessment, and professionalism. They also have ongoing opportunities to collaborate with a variety of school-based professionals (e.g., special education and English language learner specialist). Participating in professional development with their advanced mentor teachers provides teacher candidates with extended opportunities for reflection on teaching practice and student learning. The semester-long internship also occurs at one of our PDS sites, but it is much more concentrated, beginning in January and finishing in May.

Furthermore, in designing coursework, we strive to break down barriers between the university and PDS sites. For example, during the last two summers, the math methods course was set up as a school-based teacher education course supporting enrichment for the students at two PDS school sites. Hosting the course at the school site offered opportunities for teacher learning to occur along the professional continuum, from teacher candidates' field experiences to a multitude of opportunities for in-service teachers to engage in job-embedded learning. In the summer semester of 2013, we developed a Math Enrichment for Young Scholars experience, where teacher candidates worked with a math instructor and a school-based enrichment specialist to model lessons and enrich the elementary students' math learning. In the summer semester of 2014, we developed a STEM (Science, Tech, Engineering, Math) camp for elementary students where our teacher candidates were able to support the enrichment camp while learning more about ways to implement an interdisciplinary approach

to teaching STEM concepts.

Literacy professors have also revised courses to be more practice-based and more situated in PDS contexts. In fall 2014, a literacy methods course was taught onsite at a longstanding PDS (the instructor of the course had served as the university facilitator at the PDS for six years at the time of this study). The instructor and a teaching assistant organized group observations (7-8 teacher candidates plus the instructor or TA) of literacy instruction at the PDS. Teachers at the school volunteered to participate; two teachers in each grade level (K-6) were observed, and then the observed teachers attended class, which took place after school in the library, to debrief with the observers and answer questions. The teacher candidates also conducted a strategic read-aloud and a guided reading lesson in PDS classrooms. Teacher candidates' reflections were overwhelmingly positive about the innovations (Gallagher & Parsons, 2016)

Another innovative course structure was a collaboration between one PDS and the instructor of an Assessment and Differentiation course. The course is a summer course, but it occurs in late May and early June, when K-6 schools are still in session. The course instructor collaborated with the PDS principal and teachers to move portions of the course onsite, to build in a supported field experience and to create opportunities for students to collect data on students' learning to design and deliver high-quality differentiated lessons and units. We expanded these on site course collaborations in the 2014-2015 school year.

Results of Our PDS Work

The program has experienced four major shifts in structure since its inception in 1991 (Parsons et al., in press). Major changes from one program "generation" to the next have been informed by findings from research activity, collaboration with PDS district partners, and changes in state licensure requirements. Throughout our PDS history, faculty members have researched components of the program to inform ongoing efforts to graduate highly effective

teacher candidates (Lavandez & Hollins, 2015).

For example, faculty members in multiple disciplines in the Elementary Education PDS program investigated student teachers' professional growth across time and across program tracks, including the semester-long and yearlong internships, using a faculty-designed performance evaluation tool (Brown, Suh, Parsons, Parker, & Ramirez, in press). Overall findings indicated statistically significant growth across all program tracks in the domains of planning, instruction and management, assessment, and professionalism. Further, data analyses suggest candidates scored quite well in the internship experience in practice-based skills related to organizational skills and logistics of planning and teaching. Conversely, they scored lower in working with diverse learners, differentiation, and teaching skills that called for adaptive, responsive teaching. Based on these findings, faculty recognized the importance of moving coursework into structured field experiences earlier in the program to increase opportunities for situated practice with these skills (Hollins, 2015; Rust & Clift, 2015; Zeichner & Bier, 2015). All coursework has subsequently been modified to include 15-hour field experiences. With increasing frequency, these field experiences are connected to site-based courses, thus situating the learning in context and maximizing the expertise of staff and faculty at the host school.

Similarly, faculty collaborated to examine how the cultivation of a vision for teaching can support teachers as they develop their purpose for teaching, above and beyond the desire to promote students' academic success (Parsons, Malloy, Vaughn, & La Croix, 2014). The faculty investigated how these visions affect future literacy instruction, as well as obstacles that may affect enactment of their visions. In this longitudinal study, the faculty members dedicated several years to follow the graduates from the PDS model and an alternative certification route into the first several years of their teaching careers. The data suggested that teacher visioning could promote advocacy among teachers and their students. As a result, the faculty members of the PDS program continue to have teacher candidates form a vision in the

first of two literacy methods course and work with candidates to develop these over the two-course sequence.

While our program has not yet conducted a large-scale study of effectiveness and retention, anecdotal evidence such as minutes from principals' meetings and requests for program graduates suggest our teacher candidates are in high demand, particularly those who have completed the yearlong internship. Many principals see collaboration with our program as an opportunity to get an early jump on the hiring process. For example, in Spring 2015, 20 of 52 graduates who responded to our placement survey were hired in their internship placement site. Our program is beginning to explore collaborative studies with our partner districts to understand effectiveness of our PDS model in terms of retention and teacher effectiveness, and yearly program review efforts by the faculty assist in monitoring the PDS program and adapting course and fieldwork as needed to develop highly effective teachers.

Benefits of Our Model and Hurdles We Face

The benefits associated with situating teacher preparation in PDS contexts are immeasurable, and our long-standing history with this work speaks to our belief in this approach. First and foremost, the PDS model allows for purposeful consideration of teacher preparation in collaboration with school partners and in K-12 contexts. Juxtaposed against historical issues associated with teacher preparation, including haphazard placement of teacher candidates, unsystematic communication with schools, and limited attention to supervision, the structures of the PDS model provide a framework for ameliorating these issues. Adherence to the PDS philosophy of teacher preparation guides decision-making in the face of university contexts that often work against high-quality teacher preparation. The PDS 'road map' facilitates the construction of a clinical model.

In addition, the George Mason University's PDS program structures create space for higher education and P-12 districts to build close relationships. Rather than just observing

teacher candidates a couple times a year, PDS structures help stakeholders participate in the various facets of each other's lives to the extent that meets their needs. For example, schools in our PDS network complete an application and attest to faculty buy-in as a PDS site—this indicates that they are open to engagement with the program and in the preparation of teacher candidates. In addition, schools are asked to self-evaluate and determine the pathway to participation that best fits with their needs and readiness for engagement in collaborative work. Our program focuses on 'just right' levels of collaboration and does not ask schools to engage at levels that tax the building or the faculty.

Similarly, faculty recognize that they cannot be spread too thin, so our pathways of partnership pairs faculty with schools ready for intense collaboration and attention to shared research endeavors. In addition, our governance structures routinely bring all stakeholders together. This consistent interaction among all stakeholders establishes a safe space for sharing ideas and facilitates communication. Having university facilitators at school sites one day per week provides access and increases teachers' and teacher candidates' comfort with university facilitators. Conversely, consistent presence in classroom settings is vital for university facilitators as it allows them to maintain relevancy and currency and informs their own professional development.

All of these seemingly small strategies interact together to create avenues for communication and engagement and build strong, reciprocal relationships. For example, it is not uncommon for district leaders to engage with George Mason teacher candidates in specifically tailored job preparation sessions, or for classroom teachers to be tapped to lead class sessions with university faculty. Similarly, schools reach out to George Mason PDS faculty members for support with various initiatives (e.g., engaging faculty in book clubs, leading lesson study professional development sessions). District leaders routinely work with the George Mason elementary education Program Coordinator to ascertain district needs and to facilitate the hiring process. Because stakeholders routinely engage in work across contexts,

they are able to experience ongoing professional development and simultaneous renewal.

The structures and relationships created by PDS work provide a space for university faculty and P-12 faculty to engage in innovative, collaborative efforts to positively impact P-12 learners and teacher candidates. While this positive impact is ultimately the goal of PDS work, it is not possible without the careful creation of structures that foster positive relationships. At George Mason these innovations include efforts to move course instruction to field-based settings. Additionally, we continue to consider strategies for engaging pre-service teachers in field-based activities with careful scaffolding from both the university facilitator and classroom teacher. Our yearlong internship model is highly valued by school administrators because of the dual benefit of preparing highly qualified new teachers and simultaneously putting extra hands in classrooms for a full academic year.

While we are ardent supports of the PDS philosophy, it would be short-sided not to acknowledge the hurdles and challenges associated with our work. First and foremost, our approach to teacher preparation with a PDS framework is time and labor intensive— particularly for university faculty. This is especially evident when faculty try to fit PDS work into the typical/historical structures of the university—calculating load, defining service, meeting tenure and promotion requirements, and engaging in practitioner-oriented research agendas. In many instances, explaining the work in the context of traditional notions of academia is challenging at best. As faculty, intersecting research, teaching, and service agendas is essential in meeting the demands of university life and fulfilling the mission of PDS work.

Because PDS work is time and labor intensive, it is also perceived as expensive. The tension of recognizing and rewarding faculty for the time and effort spent versus the lumping of these into the already crowded 'service' bucket is palpable. Faculty are often balancing the labor intensive demands of the work, driven by their belief that it is the best structure for the

preparation of teachers, with frustration over lack of funding and recognition of the work. Schools face similar challenges in rewarding, recognizing, and compensating teachers for their roles as teacher educators working with teacher candidates day-in and day-out for extended periods of time. This arduous role is often perceived of as 'giving back to the profession' and is grossly underpaid when considered in light of the responsibilities and requirements of the work.

Furthermore, PDS efforts have focused significantly on the elementary education program. The elementary education PDS work is situated in the College of Education and Human Development at George Mason University, and it has supporting partnerships with a variety of districts in the northern Virginia region. It is within this context that the elementary education program developed and grew its PDS model in terms of longevity and depth of collaboration. Other licensure programs are exploring the development of more formal collaborative relationships with schools and districts. However, these partnerships can be challenging to create, sustain, and develop. The secondary education programs have engaged in PDS partnerships in the past and are currently working to reestablish this structure for their licensure programs. There are also college-wide efforts to enhance partnerships in other licensure programs so they more closely align with key aspects of PDS work.

Closing Thoughts

Teacher preparation embedded in PDS contexts purposefully places the responsibility of educating teacher candidates in the hands of both K-12 expert teachers and highly skilled university faculty. The collaborative focus on teacher education and K-12 student learning is at the heart of the PDS philosophy and is enacted in our elementary PDS program. Because of the PDS framework, we are able to collaborate with teachers, administrators, students and district leaders to continuously revise and refine our approach to teacher preparation.

These partnerships have allowed us to continue to develop a program that not only

enacts the current policy push (CAEP, 2015) but also enhances the development of highly effective teachers. Faculty consistently conduct research and take the necessary steps to ensure that teacher candidates are given an experience that allows them to develop in all areas. Through the PDS, candidates are given several meaningful field experiences, beneficial coursework to help connect theory and practice, and a supported internship to implement their vision. In an era of increased attention to clinical preparation (CAEP, 2015; Darling-Hammond, 2014), our work strives to enact the PDS philosophy, as it develops highly effective teachers who are valued by schools and districts.

References

Association of Teacher Educators. (2000). *Standards for field experiences in teacher education*. Reston, VA: Author.

Book, C. (1996). Professional development schools. In J. Sikula, T. J. Buttery, & E. Guyton (Eds.), *Handbook of research on teacher education* (pp. 194-210). New York, NY: Simon & Schuster/Macmillan.

Brown, E. L., Suh, J., Parsons, S. A., Parker, A., & Ramirez, E. M. (in press). Evaluating teacher candidates' performance in their PDS internship: An analysis of performance across different program tracks. *Journal of Research in Education*.

Castle, S., Arends, R. I., & Rockwood, K. D. (2008). Student learning in a professional development school and a control school. *The Professional Educator, 32*.

Castle, S., Fox, R. K., & Fuhrman, C. (2009). Does professional development school preparation make a difference? A comparison of three teacher candidate studies. *School-University Partnerships*, *3*(2), 58-68.

Castle, S., Fox, R. K., & Souder, K. O. (2006). Do professional development schools (PDSs) make a difference? A comparative study of PDS and non-PDS teacher candidates.

Journal of Teacher Education, 57, 65-80.

Council for Accreditation of Educator Preparation. (2015). *CAEP accreditation standards*.

Washington, D.C.: Author.

Darling-Hammond, L. (2014). Strengthening clinical preparation: The holy grail of teacher

education. *Peabody Journal of Education, 89,* 547-561.

doi:10.1080/0161956X.2014.939009.

Gallagher, M., & Parsons, S. A. (2016, July). *Increasing theory into practice: Pre-service*

teachers' perceptions of a practice-based literacy methods course. Poster to be

presented at the annual meeting of the International Literacy Association, Boston, MA.

Hammerness, K., Darling-Hammond, L., Grossman, P., Rust, F., & Shulman, L. (2005). The

design of teacher education programs. In L. Darling-Hammond, & J. Bransford (Eds.),

Preparing teachers for a changing world: What teachers should learn and be able to

do (pp. 390-441). San Francisco, CA: Jossey-Bass.

Hausfather, S. (2001). Laboratory schools to professional development schools: The fall and

rise of field experiences in teacher education. *The Educational Forum, 65*(1), 31-39.

Hollins, E. R. (2015). Learning teaching through clinical rotations. In E. R. Hollins (Ed.),

Rethinking field experiences in pre-service teacher preparation: meeting new

challenges for accountability (pp. 117-134). New York, NY: Routledge.

Holmes Group. (1986). *Tomorrow's teachers: A report of the Holmes Group*. East Lansing,

MI: Authors.

Holmes Group. (1990). *Tomorrow's schools: Principles for the design of professional*

development schools. East Lansing, MI: Author.

Kolpin, T., Shoemaker, E., Allen, J., Cary, C., Cosenza, M., Ensey, P., Trotter, J. (2015).

    Concept of readiness: Assessing Factors in the development, implementation, and

    sustainability of a PDS partnership. *School-University Partnerships 8*(1), 1-13.

Lavadenz, M., & Hollins, E. R. (2015). Urban schools as a context for learning teaching. In E.

    R. Hollins (Ed.), *Rethinking field experiences in pre-service teacher preparation:*

    meeting new challenges for accountability (pp. 1-13). New York, NY: Routledge.

Linton, A. S., & Gordon, R. K. (2015). A clinical classroom process. In E. R. Hollins (Ed.),

    Rethinking field experiences in pre-service teacher preparation: Meeting new

    challenges for accountability (pp. 135-150). New York, NY: Routledge.

National Association for Professional Development School. (2008). *What it means to be a*

    professional development school. Retrieved from http://napds.org/nine-essentials/.

National Council for Accreditation of Teacher Education. (2001). *Standards for professional*

    development schools. Washington, DC: Author.

National Council for Accreditation of Teacher Education. (2010). *Report of the Blue Ribbon*

    Panel on clinical preparation and partnerships for improved learning. Washington,

    D.C.: Author.

Neapolitan, J. E., & Levine, M. (2011). Approaches to professional development schools. In J.

    E. Neapolitan (Ed.), *Taking stock of professional development schools: What's needed*

    now. Yearbook of the National Society for the Study of Education, 110(2). New York,

    NY: Teachers College.

Parker, A. K., Parsons, S. A., Groth, L., & Brown, E. L. (in press). Pathways to partnership: A

    developmental framework for building PDS relationships. *School-University*

    Partnerships.

Parsons, S. A., Groth, L. A., Parker, A. K., Brown, E. L., Sell, C., & Sprague, D. (in press).

    Elementary teacher preparation at George Mason University: Evolution of our program.

In R. Flessner, & D. Lecklider (Eds.), *Case studies of clinical preparation in teacher education*. Lanham, MD: Rowman & Littlefield.

Parsons, S. A., Malloy, J. A., Vaughn, M., & La Croix, L. (2014). A longitudinal study of literacy teacher visioning: Traditional program graduates and Teach for America Corps members. *Literacy Research and Instruction, 53*, 134-161.

Rust, F. O., & Clift, R. T. (2015). Moving from recommendations to action in preparing professional educators. In E. R. Hollins (Ed.), *Rethinking field experiences in pre-service teacher preparation: meeting new challenges for accountability* (pp. 47-69). New York, NY: Routledge.

Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher, 15,* 4-14.

Slick, S. K. (1997). Assessing versus assisting: The supervisor's roles in the complex dynamics of the student teaching triad. *Teaching and Teacher Education, 13*, 713-726.

Zeichner, K., & Bier, M. (2015). Opportunities and pitfalls in the turn toward clinical experience in U.S. teacher education. In E. R. Hollins (Ed.), *Rethinking field experiences in pre-service teacher preparation: meeting new challenges for accountability* (pp. 20-46). New York, NY: Routledge.

Caution or Stasis: Using Research to Rethink Schools—Now

Alden Blodget

I have spent my life working in the tragicomedy club of school reform, almost 50 years now. I was a secondary school teacher and administrator for 38 years, and as is the case for many of my colleagues, my memories of my own learning and my experiences as a teacher revealed a need for fundamental, systemic change. Over the past 20 years, thanks to researchers in cognitive and neuroscience, our growing understanding of how people learn also suggests a need for rethinking outdated assumptions about learning and for redesigning our schools.

I'm not talking about the small but helpful changes that occur every few decades sprinkled through a few schools, the sorts of changes that can affect classroom practices without really changing the basic designs of schools--experiential learning, discussions instead of lectures, portfolio assessments, projects, learning for understanding, constructivism, differentiated instruction, blended learning, coaching. I'm talking about structural, systemic change based on a psychological paradigm shift in our understanding of how people learn. It seems that no matter what tinkering takes place, educators manage to hold onto traditional assumptions about learning, yet my sense of the insights offered by many researchers is that it's way past time to let those assumptions go.

The traditional assumptions are reflected in the almost universal trappings that identify schools as schools: Once they are old enough, students typically carry five or six courses. Their days are chopped into a certain number of pieces of about 50 minutes, sometimes with a few longer blocks. Graduation requirements distributed

through traditional subjects are pretty much identical from school to school, as are the way students are grouped and assessed. The grading system creates an expectation that everyone can be master of everything. Visit any classroom in most schools, and you'll find that, on average, the teacher does most of the talking and virtually all of the planning and directing. The mortar holding this cinderblock fortress together is a traditional set of beliefs: that all brains are (or ought to be) basically the same; that, unless they are disabled, kids learn at the same pace; that they need to learn those things that adults think are interesting and important; that teaching, learning and telling are synonyms; that a disjointed day filled with quick bursts of many different, unrelated ideas can be navigated by and productive for anyone with "grit" and a strong work ethic.

My experiences as both student and teacher led me to a different set of beliefs: that the source of motivation and of the deep engagement that triggers perseverance and creative thinking is the emotional connection between what learners study and their lives; that young people need to experience school as a place with sufficient freedom and time for them to explore their evolving interests and seek answers to genuine questions arising from their own needs; that making meaning is more important than memorizing the meaning that others have made; and that, as Ted Sizer wrote, less is more.

Little wonder, then, that I was particularly excited to learn about the research of Mary Helen Immordino-Yang (neuroscientist at the University of Southern California) and Kurt Fischer (recently retired head of the Mind, Brain and Education program at Harvard). Their insights into how people learn seemed to support, explain, alter and expand several of the conclusions and intuitions that many teachers over many decades had developed based on their observations and experiences in the classroom. Many of these insights suggest a need to rethink not

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just classroom teaching methods but the entire system. If the current system is built on faulty assumptions about learning, then we must replace these assumptions and redesign the structures, practices and policies that they support. A few of the insights from research resonated particularly strongly with me and offer points of departure for discussions about such fundamental changes, discussions that need to occur not just among current teachers but, maybe especially, among the next generation of teachers:

Emotion and cognition are inextricably intertwined. Antonio Damasio and Immordino-Yang suggest that "emotion is the rudder for thought" and that "we think in the service of emotional goals," which typically are connected to our physical and social survival and well-being (Immordino-Yang, Damasio, 2007). From my perspective, this connection between emotion and thinking leads to a deeper understanding of motivation. People think and learn about what matters to them, what is emotionally relevant and personally meaningful--now, not in some emotionally distant future with which teachers like to cajole students: "You'll need this later in your life."

This connection between emotion and motivation might help explain the results of a 2012 Gallup poll that revealed a steady decline in engagement as students move through their years in school: from 80% in elementary school to 60% in middle school to 40% in high school. Perhaps we need to consider a different model of education, one that is structurally designed so that students can learn about things that matter to them every year they are in school so that they become accustomed to experiencing school as emotionally relevant to the lives they live outside it.

All brains are different. While the architecture and general developmental trajectories are shared, the neural networks vary depending on all sorts of factors: genetics, chemistry, experiences, nutrition, relative strengths and weaknesses of different regions and of their connections. The result is significant variation in how people perceive and solve problems, which they tend to approach by recruiting their cognitive strengths (Immordino-Yang, 2007). The idea that we can standardize education and assessments for some fantasy of a "normal" brain seems doomed to failure. The only norm is variability. As a result, each school would be wise to consider not just differentiated instruction within its classrooms but differentiated paths through school itself--variation in graduation requirements, course loads, schedules, etc.

Learning is a process of building and rebuilding neural networks (Immordino-Yang, Fischer, 2009). If I want to learn to drive a car or understand neuroscience, I must build neural networks for driving or neuroscience. The *learner* must build the network; the teacher can't do it for me. Teaching and telling should not be confused with learning.   Memories are important in skill development, but memorization is not a substitute for building the network. Yet telling ("teaching") and memory work often get most of the focus in schools: "Mary just can't remember anything I taught her yesterday." "People, people, you need to sit down and memorize those definitions."

This notion that the teacher's job is to present information (to tell) and that the students' job is to remember it may be the most intractable because this is the essence of the educational system that most teachers have not just endured but mastered when they were students themselves. Gaining a new perspective, getting outside the boxes in which we are raised, is never easy, so teachers tend to teach as they were taught. It worked for them; it should work for everyone. During my

years of interviewing prospective teachers, I always asked candidates why they wanted to be a teacher, and, invariably, they would answer with some form of "because I want to share my knowledge with students." Never any mention of wanting to help students develop their own sense of meaning, to create their own knowledge and understanding of the world. These earnest young candidates had no experience with examining traditional assumptions about learning through the lenses offered by new insights into the biology of learning--insights into this process of building and rebuilding neural networks.

Performance depends on context, and regression is inevitable as the context changes. The less supportive the context, the poorer the performance. The skill or conceptual understanding that seemed to be evident yesterday in a nurturing environment regresses as conditions become more challenging. And regression is a necessary part of the process of building increasingly stable neural networks--the process of learning. (Fischer, Immordino-Yang, 2002) As we learn anything, a skill or concept, our ability or understanding reaches a point when further development requires more complexity. At this point, typically, our performance regresses, and we have to go back and start rebuilding, though not necessarily from the beginning. And this rebuilding results in a more stable base from which we can move to greater complexity before the skill or understanding again falls apart. It's the cliché of two steps forward, one step back. Sometimes, circumstances can cause regression. I might finally feel that I understand dynamic skill theory, but the stress of having to explain it to my colleagues in a formal presentation turns me into a babbling fool. This building-regression-rebuilding is the natural rhythm of learning. Regression is essential to learning.

Yet schools assume learning is a linear process of steady improvement, and regression is treated as failure. Once a student "has" the skill or knowledge, it is

not supposed to fall apart. For example, the assumption is that writing proceeds from sentences to paragraph to five-paragraph essay to research paper. A nice, tidy idea, but the student who seemed able to write sentences very well yesterday might start writing wretched ones today as she tries to express more complex ideas or moves to writing paragraphs. The student who wrote a lovely personal essay last week might write gibberish when asked to write an analysis of a poem. The demands change, the circumstances change--the context changes--and the performance changes.

Fischer suggests that an apt metaphor for skill development is not the traditional ladder representing a single skill (like writing) but a web of interconnected skills that support each other, some of which might seem unrelated to the task at hand. (Fischer, Rose, 2001) So it is likely that different people will develop different webs of skills as they work, for example, on writing skills. A good chess player may have developed strong strategic skills that support her improving skill in writing essays by contributing to her ability to organize a persuasive argument as a complex logical trap, while another student with strong empathic social skills might create a persuasive psychological argument. This sort of variation often surprises teachers, who tend to teach approaches to topics that reflect their own unexamined webs of skills. The good chess player may well receive a higher grade than the empathetic student simply because the teacher, too, sees writing as more of an exercise in logic. Or, the other way around: a different teacher may prefer the empathic essay, according to his own predispositions and web of skills.

These are only a few of the places where ideas from research interface with my and many of my colleagues' discoveries about learning based on experiences in classrooms. This marriage of science and experience offers powerful lenses

through which educators can examine old assumptions and imagine new learner-friendly schools. Having used many of these ideas in different ways--in my classroom, in redesigning a ninth grade curriculum, in an alternative school-within-a-school--I know that they can lead to meaningful structural changes that improve learning outcomes for students. Other teachers have had similar experiences. Yet fundamental systemic change seems just as elusive as ever. The system remains controlled by teachers and administrators who seem to pay little attention either to the teachers in their schools who advocate substantive change or to the researchers whose insights into learning and brain function support the specific changes advocated by their teachers.

Unfortunately, beyond the human antipathy to change, other factors also play a significant role in maintaining the traditional system. First, too many schools of education seem either slow or reluctant to embrace the growing field of mind, brain and education (MBE). When I interviewed teacher candidates, I was constantly startled by their inability to discuss new research into learning and brain function. The problem persists. Even recent graduates of education schools that have MBE programs can get their master's degree without having taken even one course in these programs. This past fall, I visited a prestigious independent school and met a bright first-year teacher who had graduated from the Harvard Ed School without taking a single course in one of the world's first MBE programs, founded and directed by Kurt Fischer. Unless those who educate the next generation of teachers study, embody and model new insights into how people learn, the system cannot change. Prospective teachers need to work with professors who can imagine and discuss the implications of this research.

A second impediment to change results from a failure to draw a distinction between research into how people learn and research into techniques that simply

help students become more successful in the traditional system. Unlike more complex, challenging ideas about brain function (like the role of emotion in learning), these techniques typically get popularized in the media. People readily understand the techniques because they don't require a psychological paradigm shift in how they understand the process of learning. For example, the *New York Times* published a report on research that suggests that "Frequent Tests Can Enhance College Learning" (2013). The American Psychological Association's *gradPSYCH Magazine* presented similar research in an article called "Study Smart" and included other research-supported "tips on how to improve study results," like spacing study sessions and interweaving subjects (2011). Teachers eagerly embrace this sort of research for two reasons: The techniques work to improve test results for many of their students, and this sort of research doesn't challenge their comfortable assumptions about learning. Like most busy people, teachers enjoy easy answers and strategies that can be quickly incorporated into what they already understand. They can claim that they are using "brain-based" techniques based on research as an excuse not to struggle with the more threatening research that challenges their typically unexamined notions about learning that are embodied in current school designs.

Although these sorts of "tips" can be useful, prospective teachers need to study and understand the more challenging implications of research into learning and brain function. Creating a new system based on valid assumptions about the process of learning is the more significant, urgent need than improving test scores in order to preserve a faulty system. Once the system and the assumptions about learning support each other, teachers can help students select from an array of techniques that might improve performance.

Finally, even some researchers and professors of education who urge

understandable, sensible caution in bringing neuroscience into our schools can also impede change. Warnings like those in Marc Schwartz's recent article in the *IMBES* journal (Schwartz, 2015) can provide unintended support to educators who prefer to keep things as they are. These articles lay out the complexities and dangers of rushing to apply neuroscience to the classroom: the inability of neuroscience to "directly inform curricular decisions"; the history of neuromyths, like trying to teach to the different hemispheres; and the need for good scientific research to determine the effectiveness of interventions. The articles remind us of the unsubstantiated theory of "learning styles" that remains a misguided fad in schools or discuss the lack of research to measure the effects of the many curricular and instructional changes that resulted from the theory of multiple intelligences. One of my teaching colleagues put the problem best when he said, "Today's innovation is tomorrow's baloney." And these warnings that urge caution reinforce this attitude that new insights are passing fads that educators should ignore.

Schwartz's article offers many excellent suggestions for moving forward and "achieving a foundation of common understanding and purpose": developing a common language for all the cross-disciplinary stakeholders in mind, brain and education initiatives (including legislators); training more "neuroeducators"; setting up more research schools; and ensuring that research and classroom practice inform each other.

However, given the scope of the work that these sorts of articles present, we could remain mired in this same failed system for another century. We cannot continue to postpone the opportunity to change our failed system. We have millions of young people right now who shouldn't have to wait until later. Even those few insights into learning that I outlined above ought to be sufficient motivation for teachers and administrators to imagine ways to alter many of the

traditional practices that are clearly at odds with those insights, not to mention at odds with their own experiences as learners and teachers.

There is a difference between snake-oil salesmen looking to earn a buck peddling "brain-based" curricula and educators using insights from researchers and their own understanding of how people learn as motivators and guides to improve their schools. Despite the mistakes that some may have made in using, for example, the theory of multiple intelligences to improve learning experiences in their classrooms, despite our updated understanding that brain function is not modular, the basic insights about intelligence (what it is and the variety of ways it can be expressed) helped to improve the experiences of learners in schools that used these insights as a context for exploring what worked and didn't work in the classroom. We have now learned more. We can use new insights to continue to move forward. That's pretty much how other professions work.

Change is hard work; it's threatening and can be deeply unsettling. And, unfortunately, those who oppose change often seize on any excuse to keep it at bay. What could be a more attractive excuse for stasis than arguments from researchers in the MBE world making a case for further delay? Let's wait until later when we have more data.

We don't have to continue to wait. We could combine the gathering of data and all the other steps that the cautious suggest with actual changes to improve the lives of young learners right now--if educators work to study and understand the current research that resonates with their own experiences; and if schools hire their teachers to work most of the summer with their colleagues, when the students are not around, to imagine and develop structures, practices and policies that make more sense than the current ones; and if schools of education immerse the next

generation of teachers in MBE. The kids in our classrooms need change now, not later--cautious, systemic, thoughtful, informed change now.

References

Carey, B. (2013). Frequent Tests Can Enhance College Learning, Study Finds. *New York Times*. November 20.

Fischer, K. W., & Immordino-Yang, MH. (2002). Cognitive Development and Education: From Dynamic General Structure to Specific Learning and Teaching. Essay for the Spencer Foundation.

Fischer, K. W., & Rose, L. T. (2001). Webs of Skills: How Students Learn. *Educational Leadership*, November, 6 - 12.

Immordino-Yang, MH. (2007). A Tale of Two Cases: Lessons for Education from the Study of Two Boys Living with Half Their Brain. *Mind, Brain and Education*. *1*, 66 - 83.

Immordino-Yang, MH. (2007). We Feel, Therefore We Learn: The Relevance of Affective and Social Neuroscience to Education. *Mind, Brain and Education*. *1*, 3 - 10.

Immordino-Yang, MH., & Fischer, K. W. (2009). Neuroscience bases of learning. *International Encyclopedia of Education*, 3rd edition, section on Learning and Cognition. Oxford, England: Elsevier.

Schwartz, M. (2015) *Mind, Brain and Education*: A Decade of Evolution. *Mind, Brain and Education*. 9, 64 - 71.

Winerman, L. (2011). Study Smart. *gradPSYCH Magazine*, November, 25.

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