

## Table of Contents

- 5     **Constructions of Excellent Teaching: Identity Tensions in Preservice English Teachers** ..... *Connor K. Warner*
- 17    **Cross-Age, Cross-Content Modeling: Improving Teacher Credential Candidate Skill at Adapting and Modifying** ..... *Mira Pak, Greg Knotts, and Phyllis Gudoski*
- 25    **The Significance of Principal Preparation and Education Law: Principals’ Perceptions of Students’ Rights** ..... *Tanjula Petty*
- 39    **Teachers’ explanations for challenging behavior in the classroom: What do teachers know about Functional Behavior Assessment?** .....  
..... *Andria Young and Rachel Martinez*
- 47    **Changing Perceptions: Mississippi’s Initiative to Bring the Best and Brightest to the Education Profession** ..... *Mary Ann Parker*
- 51    **Role of Educators in Identifying Family Environment and Sexual Abuse Among African American Youth** ..... *Praphul Joshi and Mihae Bae*
- 57    **“Basically, You Have to Teach Them to Love What They Are Writing About”:  
Perceptions of Fourth Grade Writing Teachers** .....  
..... *Melinda Miller, Helen Berg and Donna Cox*
- 65    **The Relationship between Middle School Students’ Mathematical Vocabulary and their Achievement in Mathematics** ..... *Alanna L. Bowie*
- 71    **Do Mathematics Courses for Elementary Teachers Contribute to the Development of Mathematical Knowledge Needed for Teaching of Preservice Elementary Teachers?** ..... *Leslie Soltis*

# NATIONAL TEACHER EDUCATION JOURNAL

The National Teacher Education Journal (NTEJ) is a nationally refereed journal. The journal serves as a clearinghouse for research on issues affecting teacher education in K-12, community college, and/or university settings as well as innovative techniques that encourages learning. All educators from all different levels of education are invited to submit manuscripts for review. Reviews typically take about six weeks. The NTE Journal is not supported by an organization or association. It is an independent journal of education.

Subscription information: Issues are \$170.00 per issue and may be requested by contacting the Editor (editor@ntejournal.com). Special yearly rates are available.

Claims for undelivered copies must be made no later than six weeks following publication. The publisher will supply missing copies when losses have been sustained in transit and when the reserve stock will permit. Large orders will require certified mail.

Editorial Responsibility: Points of view or opinions expressed in the National Teacher Education Journal do not necessarily reflect the views or opinions of the editor or editorial board.

NATIONAL TEACHER EDUCATION JOURNAL, Vol. 9 No. 1, Winter 2016, Copyright 2016 by the National Teacher Education Journal. Questions about the journal should be sent to: Matthew Boggan, Editor of the National Teacher Education Journal (editor@ntejournal.com). No portion of the contents may be reproduced in any form without written consent of the editor or publisher.

The National Teacher Education Journal was approved for inclusion in Cabell's Directory of Publishing opportunities in November of 2011.

Dr. Matthew Boggan,  
Editor of NTE Journal  
Mississippi State University

Dr. Mickey Dunaway  
University of North Carolina at Charlotte

Dr. Paula Mathis  
University of Hawaii

Dr. Adrian Zappala  
Peirce College (Pennsylvania)

Dr. Kioh Kim  
University of Louisiana at Monroe

Dr. Frank Lilly  
California State University  
at Sacramento

Dr. Timothy Hatten  
Rock Valley College (Illinois)

Dr. Frank Dykes  
University of Texas at Tyler

Dr. Nichelle Boyd  
University of Mississippi

Dr. Ingrad Smith  
Jackson State University

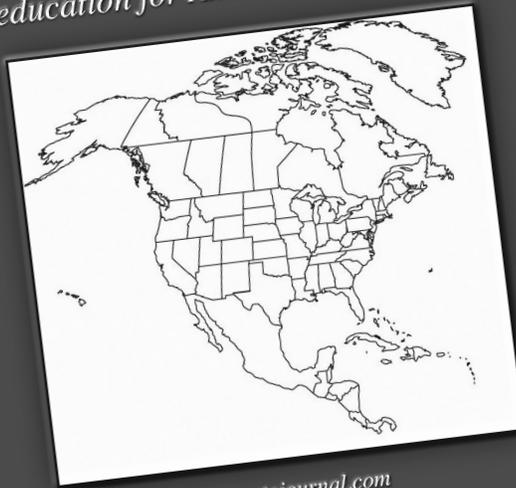
Dr. Carl Hancock  
University of Alabama

ISSN # 2157-0590

# NTE JOURNAL

## National Teacher Education Journal

*A national quarterly journal of research and innovative techniques in  
education for America and beyond*



[www.ntejjournal.com](http://www.ntejjournal.com)

VOLUME 8      NUMBER 3      FALL 2015

# Constructions of Excellent Teaching: Identity Tensions in Preservice English Teachers

Connor K. Warner

**Abstract:** This qualitative study explored the conceptualizations of a cohort of preservice English teachers regarding the purposes and attributes of excellent English education. These questions guided the study: 1) How do preservice teachers conceptualize the purpose of English education? 2) What practices do those preservice teachers see as exemplifying excellence in the English teaching? 3) How have the perceptions of these preservice teachers changed throughout the course of their student teaching? Interview data was thematically coded using constant comparison and open coding techniques. Using two participants as examples, the study illustrates how preservice teachers struggled to balance competing forces and live up to standards of excellence imposed upon them by teacher educators, cooperating teachers, and district colleagues, they forged their own constructions of what it means to be an excellent English teacher, and, in the process, established their initial identities as teachers.

**About the author:** Connor K. Warner is an Assistant Professor of Teacher Education at the University of Missouri-Kansas City.

**Keywords:** teacher, English, excellence, identity, preservice

## INTRODUCTION

The federal *No Child Left Behind Act of 2001* sought to place a “high-quality” teacher who could assure “excellence” in education in every classroom in the United States (NCLB, 2003). Hattie (2004) argued that “excellence in teaching is the single most powerful influence on [student] achievement” (p. 24). However, very little consensus exists on what exactly excellence in teaching entails (Ball & Forzani, 2009; Getzels & Jackson, 1963). It is one thing to say that students need and deserve excellent teaching; it is quite another to define excellent teaching and then convey that definition to preservice teachers. Defining, analyzing, and measuring excellence is not easy to do (Greene, 1984). Terms like *excellence* and *quality* are inherently complex and subjective concepts; as concepts of value, they must be problematized and discussed, not as absolutes, but as constructions of understanding (Wang, Lin, Spalding, Klecka, & Odell, 2011). Cochran-Smith & Lytle (2006) argued that one of the central problems with *NCLB* and, more generally, with U.S. educational policy, was the failure to problematize teaching, and the “cement[ing] into law [of] a particular (and, we would argue, narrow) perspective on teacher quality—one that targets training and testing as the bottom lines of educational process and stubbornly ignores the fact that many issues related

to knowledge and teaching are contested” (p. 670). Excellent teaching is one of these issues.

Since excellence is a subjective concept, different educational stakeholders will hold different constructions of excellent teaching. Educational researchers and policymakers have used a wide variety of terms to denote the very best in teaching, terms like *good* (Chingos & Peterson, 2011), *quality* (Fenstermacher & Richardson, 2005), *exemplary* (Feldman, 1997), *effective* (Calabria, 1960), *expert* (Berliner, 1986), *excellent* (Chen, Brown, Hattie, & Millward, 2012), and many others. The research just cited presents the constructions of teacher educators, researchers, policymakers, and students, but one voice is frequently missing—the voice of preservice teachers. Their voice is important because, as many other researchers have documented, preservice teachers “tend to filter teacher education coursework according to their established beliefs about how to teach” (Balli, 2011, p. 245). This means that what preservice teachers believe about teaching is as important as what they know about teaching; in fact, what they believe about teaching shapes what they know about teaching. Teacher educators, then, need to understand what their preservice teachers believe excellent teaching to be so that they can help them to achieve that excellence or to adjust those conceptions of excellence. This study seeks to increase “empathetic

understanding” (Stake, 1995, p. 39) of the experiences of preservice teachers and to highlight the “complex interrelationships” (p. 37) that shape preservice teachers own conceptions of excellent teaching, conceptions which, in turn, shape how their own teacher identities.

The following stories illustrate the experiences and growth of a pair of preservice English teachers at a major public research university in the Midwest, hereafter referred to as MidState University as they navigated their way through practicum experiences, student teaching, and finally, their first year in classrooms of their own. As these novice educators struggled to balance competing forces and to live up to standards of excellence imposed upon them by teacher educators, cooperating teachers, and district colleagues, they forged their own constructions of what it means to be an excellent English teacher, and, in the process, established their initial identities as teachers. To begin this inquiry, I asked the following questions:

1. *How do these novice teachers conceptualize the purpose and importance of secondary English education?*
2. *What practices and behaviors do these novice teachers see as emblematic of excellence in the teaching of English?*
3. *Did the perceptions of these preservice teachers regarding excellence in the teaching of English change throughout the course of their practicum, student teaching, and first year in the classroom? If so, how did they change?*

Exploring these questions has helped me to develop what Stake (2005) called *vicarious experience*, which “parallel[s] actual experience, feeding into the most fundamental processes of awareness and understanding” (p. 454). It is my hope that the readers of this article will also be able to develop that vicarious experience and use that experience to inform their understandings of their own particular contexts.

## CONCEPTUAL FRAMEWORK

My inquiry into preservice teacher conceptions of excellent teaching is framed by two bodies of literature: 1) literature seeking to define and analyze excellence in professional contexts and 2) literature exploring the formation of preservice and novice teacher identity.

### *Excellence*

Fundamental to this inquiry is the assumption, rooted in the writing of Aristotle (1934) and its interpretation by Rawls (1971) and this enjoyment increases the more the capacity is realized or the greater its complexity. The intuitive idea here is that human beings take more pleasure in doing something as they become proficient at it, and of the two activities they do equally well, they prefer the one calling on a larger repertoire of more intricate and subtle discriminations.” p. 426/n\nself-respect (or self-esteem, that human beings possess an innate desire to excel at the important activities in their lives. In the *Nicomachean Ethics*, Aristotle (trans. 1934) wrote that “the Good of [a person] is the active exercise of his[/her] soul’s faculties in conformity with excellence” (p. 33). Rawls (1971) expanded upon Aristotle’s thinking, arguing that an individual’s self-esteem and self-respect are contingent upon the pursuit of excellence in worthwhile tasks, that is, that “excellences are a condition of human flourishing” (p. 443). Despite its importance, however, excellence is a contested concept.

Excellent teaching is discussed throughout the research literature on teacher education, often seemingly under the assumption that all stakeholders agree on what the phrase means. My review of literature discovered three main themes relating to definitions of excellent teaching: some authors referenced excellent teaching without defining it (Andrews, 2011; Sachs, Fisher, & Cannon, 2011); others defined it in ways that imply that excellent teaching is universally identifiable and generalizable (Bryk, Harding, & Greenberg, 2012; Chawla & Thukral, 2011; Henry, Kershaw, Zulli, & Smith, 2012; Oluwatayo & Adebule, 2012; Plecki, Elfers, & Nakamura, 2012; Wold, Young, & Risko, 2011); and, lastly, some defined excellent teaching as variable, depending in large part upon the context in which the teaching is taking place (Anderson & Stillman, 2011; Cheng, Tang, & Cheng, 2012; Gottlieb, 2012; Hollins, 2011; Young & Erickson, 2011). What emerged from this analysis of contemporary scholarship relating to excellent teaching in the context of teacher preparation is that a divide seems to exist within the research community between those who see excellent teaching as heavily dependent upon contextual variables and affective outcomes and those who believe that excellent teaching can be distilled down to specific standards, procedures, or behaviors which are universal and contextless.

Discussion of what excellent teaching entails is an important task for teacher preparation institutions to undertake if they intend to build cohesive programs of study rather than simply offering series of courses. In the context of teacher education, researchers have noted that

successful teacher education programs share a “common clear vision of good teaching that permeates all course work and clinical experiences, creating a coherent set of learning experiences” (Darling-Hammond, 2006). Institutions will need to decide whether the primary objective of their program is to impart specific teaching strategies and behaviors based upon the contextless generalizations of quantitative research or if it is to instill in teacher candidates the skills and dispositions of reflection, compromise, and inquiry which will allow them to develop and strive to embody their own context-specific definitions of excellent teaching, or will the institution seek to develop a middle ground between these extremes?

### *Teacher Identity*

Even more importantly, conceptions of excellent teaching shape individual teacher identity. Walkington's (2005) study affirmed that participant descriptions of “good” teaching are, effectively, statements of identity, of who they want to be. Understanding preservice teacher identity is vital to the work of teacher educators (Bullough, 2005). Preservice teacher identity helps to shape teacher candidates' interactions with teacher preparation coursework and experiences (Horn, Nolen, Ward, & Campbell, 2008). According to Sexton (2008) “Preservice teachers, embodying specific identities, understandings, and early enactments of teaching, engage with the systems of teacher education to create a professional identity” (p. 75). Webb (2005) maintained that “The beliefs, attitudes and habitual behaviours of preservice teachers can cause stress in identity formation during teacher education, if not examined consciously and systematically” (p. 2). Such stress, if unexamined can significantly undermine the efficacy of teacher preparation. According to Poulou (2007), “an important factor contributing to the incomplete transfer of the theories taught in the university to classroom teaching practice...lies in the failure of prospective teacher training programs to act upon and challenge the student-teachers' already formed beliefs” (p. 94). On the other hand, systematic examination of identity formation “will lead to the development of more effective teacher education programs that prepare highly qualified teachers for 21st century school-age populations” (JE Cooper & He, 2012, p. 89). Jarvis-Selinger et al. (2010) believed that teacher identity research should “be used by teacher education programs to support, challenge, build, and enhance teachers' developing professional identity and commitment to teaching” (p. 71). Oruç (2013) summed this up, saying “The more we know about teacher identity—the phases and the reasons of identity development—, the better we can design our

teacher education programs” (p. 210). Understanding identity is essential to improving teacher education.

However, the impact of preservice identity formation does not end at graduation. According to Hochstetler (2011), understanding and supporting teacher identity development is essential to addressing teacher attrition because teachers who are unable to navigate the difficult work of identity development or reconcile their preconceived notions of teacher identity with the realities of the classroom will end up leaving the profession. Hong (2010) concurred, finding that understanding teacher identity and its role in “emotional burnout” (p. 1541) is essential to addressing teacher attrition. Thomas & Beauchamp (2011) argued that understanding and explaining to new teachers the difficulty of the identity development process is essential “to ensure that new teachers begin their careers with the appropriate tools to negotiate the rocky waters of the first few years” (p. 767). If they are not equipped for such work, the many conflicting identity demands of teaching may drive them from the profession to seek safer harbors where they are not called upon to do and be so many different things.

Akkerman & Meijer (2011) conceptualized identity as a continuous dialogue in which six seemingly contradictory positions are explored or reconciled: “teacher identity can be typified as both unitary and multiple, both continuous and discontinuous, and both individual and social” (p. 309). In maintaining that identity is both unitary and multiple, the authors argue that, in any given context, different facets of a person's identity, the “sub-identities” mentioned by Beijaard et al (2004), rise to the forefront, giving a person a multiplicity of identities. However, that person is constantly working to synthesize those different facets, and in that synthesis, forging, at least for the moment, a unitary identity. As contexts change, and new facets of identity rise to the forefront, ongoing synthesis is required, which leads to the authors' assertion that identity is discontinuous. At the same time, while identity may be discontinuous from instance to instance, Akkerman & Meijer (2011) maintained people must feel that they have a unitary identity, and so they continuously weave discontinuous identities into a narration of who they are. The structure of the story, then, helps them create a unified understanding of who they are. Part of that story, of course, involves other people, and the associations a person makes with other people help to construct his or her identity. In the specific context of teachers, this means that “teachers implicitly construct and negotiate their identity in relation to the various people they meet and the communities they are or become engaged in” (Akkerman & Meijer, 2011, p. 314). This is the social aspect of identity. However, identity is

also individual because no two people share membership in all of the same social groups. Each person is unique in the sum of their memberships and in the importance that they place upon those memberships.

### *Tension in Excellence & Identity*

Most preservice teachers do not expect to go through such a difficult process of questioning. Instead, they come to teacher preparation programs “with clear images of what teaching entails and how they see themselves as teachers” (Chong, 2011, p. 220); that is, they know what they believe excellent teaching to be, and they think they know how to achieve it. Much of the task of identity development involves “the process of integrating one’s personal knowledge, beliefs, attitudes, norms, and values on the one hand, and professional demands from teacher education institutes and schools, including broadly accepted values and standards about teaching” (Pillen, Den Brok, & Beijgaard, 2013, p. 86). Franzak (2002) noted that preservice teachers usually experience tension between what they envisioned teaching to be like and what they observe in their field experiences. Dissonance is “a mismatch between students’ idealized perceptions of the profession and the reality that often confronts students in their teaching practice” (Friesen & Besley, 2013, p. 29), and the negotiation of such dissonance is essential to identity development (Chong, 2011; Galman, 2009). Preservice teachers will experience dissonance between their own inclinations and those of their cooperating teachers and university supervisors, between their past experiences and their current contexts, and between their own visions of excellent teaching and the understandings conveyed by their coursework (Pillen et al., 2013). The participant in Franzak’s (2002) case study struggled to reconcile her own dedication to teacher activism and collaboration with the conditions of isolation that she found in her field experience. Such struggles can lead preservice teachers to question what it means to be a teacher and what kind of teachers they are or hope to be. Friesen & Besley (2013) argued that teacher education programs need to help students through such struggles, but that “challenging long established beliefs which may be highly resistant to change requires an approach which is both supportive, respectful, and acknowledges that these beliefs form the initial platform from which a mature professional identity may emerge” (p. 30).

Alsop (2006) discussed her own experience searching for a teacher identity, noting that, as a new teacher, “I certainly wasn’t the teacher I wanted to be—in fact, I didn’t completely know what or who that teacher was yet” (p. 3). This is not what preservice teachers expect when they enter the profession, however. They

come into teaching with preconstructed notions of who and what a teacher should be, of what excellent teaching entails, notions that are informed by their past interactions with teachers and with media portrayals of teachers. They expect themselves to seamlessly transition into this preconceived identity. In contrast, Alsop described the process of establishing teacher identity as one of “continual becoming rather than an endpoint culminating in a singular identity construction” (p. 7). Lack of preparation for the difficult ongoing nature of the identity construction process leads to significant tension in preservice teachers. Alsop maintained that in order to alleviate that tension, preservice teachers should not seek to establish a fixed new “teacher” identity, but, rather, should seek to become comfortable “reaching the in-between ground, the place of becoming, the space of ambiguity and reflection” (p. 9). Alsop calls this space a “borderland discourse” (p. 9), that is, a space where preservice teachers can experiment by moving between and combining elements of personal, professional, and societal constructs of teacher identity.

Alsop (2006) argued that, though tension is uncomfortable, the existence of such tension is essential to successfully building teacher identity. It is only through the experiencing of tension and the testing of ideas and values against context that true professional identity can be formed. Horn et al. (2008) agreed. In their study of teacher identity, they found that

*In the best scenarios, this tension helped the interns develop their pedagogical reasoning while, at the same time, honing their ability to adapt and coordinate different practices. If they had too much ease in implementing teaching practices, interns had limited opportunities to develop adaptation strategies and their reasoning. On the other hand, if they had too much difficulty, they often abandoned the practices they learned in teacher education in favor of the ones in place in the classroom, thus limiting their opportunities to develop skills in deploying those practices. (p. 71)*

The point for teacher educators, then, is not to eliminate the tension, but to provide preservice teachers with the proper tools to negotiate that tension. This study seeks to explore the journeys of two such teachers and to illuminate the ways in which they negotiated tensions of excellence and identity.

## **RESEARCH CONTEXT & METHODS**

This study was rooted in the interpretive paradigm of educational research (Erlandson, Skipper, Allen, & Harris, 1993; Lincoln & Guba, 1985). Such research, according to Denzin & Lincoln (2005) “involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them” (p. 3). This paradigm gives primacy to the meanings established by participants within the study, viewing knowledge as highly contextual. As such, the design for a study within this paradigm must, by necessity, be emergent, developing in response to themes and questions that arise throughout the course of the inquiry (Lincoln & Guba, 1985).

### *Data Collection & Analysis*

This article emerged from a mixed methods qualitative case study (Delahunty, 2012; Merriam, 2001; Stake, 1995) into the perceptions of preservice English teachers regarding the purposes of English education, the attributes of excellent English teaching, and the ways in which they construct their own identities in relation to English education. The “bounded system” (Stake, 1995) of this study was of an entire cohort of preservice English teachers student teaching at MidState University during the spring of 2013. Data was gathered using a combination of in-depth interviewing (Seidman, 2006), participant observation (Yin, 1994), and content analysis (Marshall & Rossman, 2006). I interviewed the participants during the spring and fall semesters of 2013 in a series of up to three interviews regarding their experiences in their practicum and student teaching and their opinions relating to excellent teaching. I also observed them within their field experience settings on at least three occasions during the course of the spring semester. Once data was collected, it was then thematically coded using constant comparison and open coding techniques (Glaser & Strauss, 1967; Strauss & Corbin, 1994). Emerging themes were triangulated with data drawn from evaluation documents, student-teaching reflection papers, and BlackBoard threaded discussion posts. I then followed up those initial interviews with a fourth interview taking place toward the end of my participants’ first year as classroom teachers.

### *Context*

This study took place within the School of Education’s English teacher preparation program at MidState University, a major research university in the Midwest. The primary focus was upon the attitudes and perceptions of the cohort of English teacher candidates

who graduated from MidState in the spring of 2013. The inquiry spanned approximately a year and a half, tracking participants as they moved from students in the School of Education to student teachers in area middle and high schools to teachers in their own classrooms. The English teacher preparation program at MidState is a traditional undergraduate program. Before the study commenced, all 20 participants had completed the majority of their general education and English content courses, as well as approximately 30 hours of Education coursework. When the study began, all students were concurrently enrolled in and advanced English methods course, the final methods course that teacher candidates at MidState take before student teaching, and in an advanced teaching practicum, a field experience accompanying the methods course and requiring students to complete a minimum of 70 hours of observation and interaction within area middle and high schools. The choice to situate my study at this point in the program was deliberate, drawing on the observation of Hochstetler (2011) who noted that preservice English teachers “don’t fully understand what it means to be a teacher of English until the final semesters of their preparation program” (p. 256). I followed my participants into their student teaching placements different area middle and high schools in the following semester, and then completed the study by interviewing them a final time near the end of their first year as solo classroom teachers.

### *Participants*

Ranging in age from 22 to 45, the 20 initial participants in the study included both male and female representatives and both traditional and non-traditional students from urban, rural, and suburban backgrounds, comprising the entire cohort of preservice English teachers at MidState University. As necessary, additional information was gathered from other stakeholders, including clinical and university supervisors, university instructors, and other students in a process of serial selection, where “maximum variation is best achieved by selecting each unit of the sample only after the previous unit has been tapped and analyzed. Each successive unit can be chosen to extend information already obtained, to obtain other information that contrasts with it, or to fill in gaps in the information obtained so far” (Lincoln & Guba, 1985, p. 201). As the study progressed, the sample was refined and focused (Lincoln & Guba, 1985), and a smaller number of participants were selected for more in-depth study and interviewing, based upon their potential to serve as “telling” cases (Ellen, 1984) of particular issues and themes that recurred across the larger initial sample.

## **FINDINGS**

This particular article focuses on the issues of tension and identity within preservice English teachers, as well as the ways in which participants negotiated those tensions and established their own definitions of excellent teaching. Though all the participants in the study exhibited some degree of tension due to their constructions of excellent teaching the dissonance between those constructions and the realities of the classroom, I highlight the experiences of these two participants, David and Kate, because of the richness of their stories and the ability of those stories to illuminate understandings gained across the inquiry.

*David.* David was born in 1991 and grew up in a primarily middle class neighborhood in a small city in the central United States. He was part of a “multigenerational teacher family” (Alsup, 2006, p.107)—both his parents were teachers, and he always felt that teaching was “in his blood.” When asked why he had chosen teaching as a career path, he also noted that he felt “as though there is an energy or force attracting me to the field of education...the only way to satisfy my attraction is to jump in and see how far the wormhole goes.” David’s case serves as an example of an individual who entered the profession viewing teaching as primarily a technical enterprise where the teacher applies universally tested, context-independent strategies to classroom, but who gained more awareness of the importance of environment and relationships during his field experiences, and, who eventually achieved a kind of balance of expectation between the two in his own classroom.

*Kate.* Like David, Kate was also born in 1991. She grew up in a rural town in the central United States, and, while she noted that her parents both worked full-time and “rarely worried about money,” her town “was a farming community, so some families struggled during some years and didn’t struggle during others.” Unlike David, she entered the profession already dedicated to the idea of transformative teaching; because she “love[s] people, books, hearts, and minds.” In an essay that she wrote before entering her first field experience, she noted that she wanted to become a teacher because “teachers have the ability to greatly and personally affect the lives of young people” and that she looked forward to “giv[ing] love and guidance to secondary students.” With such lofty goals, Kate frequently felt stymied in her attempts to live up to her own expectations of excellence, both during her field experiences and during her first year in her own classroom.

#### David’s Story

David’s initial understanding of excellent teaching and his vision of the identity that he hoped to build as a teacher revolved around the mastery and delivery of a pre-

existing body of content and pedagogical knowledge that he envisioned inheriting from previous master teachers. He spoke of being a “product of three generations of teachers,” and of “being the progeny of an entire lineage of teachers.” In his first interview, David noted that “the technical aspects of pedagogy, namely instruction, assessment and management, set up any teacher to be successful.” When he began his field experiences, David was very focused on procedures and processes that would allow him to “impart knowledge,” and he was concerned with his ability to “deliver” information. His goals for English instruction centered on getting his students to achieve a “baseline ability in writing and reading... [and] an adequate skill set for performing duties of an occupation.” He saw himself as preparing students for the workforce, and, in general, he judged excellence in teaching by the degree to which the teacher’s techniques helped students to adopt specific communication skills. When he entered student teaching, most of his early observations centered upon “techniques that are tried, true, and sound.” David’s identity was inextricably linked to his content expertise and his authority within the classroom. He was, in his own words drawn from his very first field experience essay, a “deliverer of knowledge,” an inheritor and wielder of a body of technical knowledge already established and mastered by past teachers.

He noted that he hoped the skills he taught his students would wind up “empowering [them] to strive for something greater and more purposeful than *Jersey Shore* and *Monster Energy Drinks*.” However, his pedagogy did not necessarily lend itself to helping his students achieve such transformations. Classroom observations repeatedly showed lack of interaction between David and his students. He was telling them information using PowerPoints and lectures, but not eliciting responses or critical thinking from his students. I noticed this tendency in my own observations of his teaching, and his cooperating teacher pointed it out to him as well. In a reflection report written after his first formal conference with his cooperating teacher during student teaching, David noted that “After reflecting, I suppose I could tone down my barrage of information.” However, tension definitely existed between his own conceptions of excellent teaching and the practice of his cooperating teacher. David was looking to her to pass on technical knowledge of content and pedagogy, to help him continue his journey toward assuming the mantle of teaching that he envisioned. He was initially frustrated that his mentor teacher seemed to be more interested in forming relationships with students than in covering particular content or employing specific learning strategies.

However, as David's field experiences progressed, he began to adjust his thinking, both about excellent teaching and about the teacher he was and hoped to be. In describing his cooperating teacher, he noted that

*She was or is very passionate in her work and trying to instill that with students, even when the lesson was nothing quite innovative or cutting-edge, that "old school" teaching. Her genuinely caring persona made for excellent teaching because the students realized her effort to connect and inspire, but she differed from me in that I was focused on using a varied repertoire of pedagogies I was learning.*

In observing his classroom teacher, he came to the important understanding that building relationships with students was just as important and, sometimes more important than choosing the right instructional strategy. In his words, "I took a lot away from realizing it's not all about those technical aspects, and that I can get much more genuine growth from students from being a human and not just that person standing at the front of the classroom all day."

After spending almost a year as a classroom teacher himself, David appeared to have expanded the parameters by which he judged excellent teaching. He described the following scenario from his student teaching:

*There were multiple times where I felt as if I was failing certain students because I wasn't challenging them enough, or other students were getting left behind because I couldn't work individually with them and keep up with the rest of the class. There were a particular handful of students, mostly young male students, who really enjoyed having me as a teacher and somebody to talk to, but academically, we butted heads many times, so I felt like I never really helped them learn.*

He then noted that later, having had time to reflect on his field experiences through the lens of his first year as a solo teacher, he felt that he did not fail those students just because they did not learn all of the information that he wanted them to. Instead, he counted as a success the fact that he was able to form personal connections with those students and mentor them through some difficult points in their lives.

David began his field experiences seeing excellent teaching as the mastery and utilization of proven technical strategies, and judged his own success based

upon his ability to use those techniques to transmit knowledge to his students. Given this definition, the only successful identity he could envision for himself or for other teachers was that of an absolute authority on matters of content and pedagogy. However, his observations of both his students and his mentor teacher led him to slowly broaden his conception of excellent teaching and, with it, his sense of the kind of teacher he was and wanted to be.

#### *Kate's Story*

Kate entered the teaching profession to "inspire students to seek to reach their highest potentials." When asked to describe the best teacher she had ever learned from, she told a story of a high school German teacher who

*.....really cared about her students....She did a great job making her students feel like they could be open and honest...We all respected her and just really wanted her [good] opinion and support.*

The words *inspire* and *inspiration* permeated nearly every response Kate made to questions about success and excellence in teaching. She always wanted to be "energetic and exude a passion for learning," and she wanted to instill those dispositions in her students. She balked when the cooperating teacher for her field experience provided her with a class roster that included prior student standardized reading test scores and a "list of their disabilities and struggles", saying "it seemed a little odd for me to know their scores before I knew anything else about them. I'm trying not to have biases against students, but my teacher [cooperating teacher] seems to think the best way to teach is to know the weaknesses of the students. I would kind of rather know their strengths first." In Kate's mind, student data without personal context and the building of relationships was not only not helpful, it was possibly detrimental.

In her entrance essay for field experience, she noted that she enjoyed "figuring out how to best convey information," and in her first interview for this study, she talked about helping students develop "skills in communication and cognition" and "analyze texts and information for validity." Her field experience goals included gaining "experience teaching grammar...practic[ing] classroom management...[and] grad[ing] essays/writing." To meet these goals, she found herself testing and evaluating the "skills and strategies [that she] learned" in her teacher preparation coursework at MidState University.

Kate's conception of excellent teaching, then, involved

the ability to both transfer skill and information to her students and to stimulate them to become better human beings—that is, she aspired to be both “effective and inspiring.” This is a high standard by which to judge herself and others. She argued that teachers “must remain dedicated to their students and to their jobs in spite of tiredness or discouragement,” and she was critical of a cooperating teacher who seemed to do “the least amount of work possible in order to achieve goals.” She explained that

*My views [of excellent teaching] were different from my cooperating teacher's. He was passionate about English, but he was not necessarily passionate about helping students learn. I sought to create an atmosphere in which writing and discussion were encouraged, and he preferred to give them information that he considered important about a given piece of literature.*

Early in her first field experience, she noted that she was the “kind of person who can't say no if someone asks me to do something,” and she worried even then that her emotional commitment and drive might lead to her getting “burnt out and overwhelmed.” Kate was uncompromising in her belief that every day in the classroom was an opportunity to change student lives, and so every day deserved the devotion of a teacher's full mental, emotional, and physical energies.

One of Kate's major challenges during her first year in the classroom was coping with the realization that no matter how hard she drove herself, she could not do everything. She stated:

*I am now learning how to meet the needs of a student who hates women and yells out curse words randomly. I am learning how to meet the needs of 7th graders who cannot read. I am learning how to meet the needs of students who do not speak English and do not have parental figures in their lives.*

Time in the classroom has opened Kate's eyes to the amazing diversity of need in the average classroom, and, with that knowledge, has come the slow and painful realization that, as a single individual, she cannot always meet all of those needs.

#### *David the Nurturer*

In recalling her own experience, Alsup (2006) noted that she struggled in “establishing [her]self in a position

of authority in the classroom because [she] had never experimented with such a role before” (p. 7). David's story exhibits the opposite struggle. He entered the profession comfortable being an authority figure—as a white male from a middle class background, he had been socialized to fill this role. What he struggled to incorporate into his identity was the role of caring nurturer that his cooperating teacher so easily embodied. Noddings (2001) in her discussion of the importance of care to the work of teaching, noted that “caring has for so long been regarded as women's work” (p. 100). Alsup (2006) agreed that “Women educators historically have been associated with the bodily or physical and the emotional aspects of knowledge, whereas men have been identified as possessors of the superior intellectual or rational capabilities” (p. 26). David's masculinity was an important part of his identity, so this may be one of the reasons that he struggled to incorporate the role of nurturer into his own identity and to value the aspects of teaching that involve more than simply transmitting information to students.

#### *Kate's Calling*

Kate's story manifests the difficulties for preservice teachers who enter the profession seeing it as a *calling* (Alsup, 2006). Teachers who are *called* to the profession feel that they “should go above and beyond the call of duty...with no expectation of extra reward, much less adequate compensation” (p. 20). These sacrifices are made worthwhile by the “enduring effects” (Jackson, 1986, p. 123) of the teacher in helping to transform students into better human beings who will better the world around them. This was the identity that Kate envisioned for herself when she became a teacher. What she found, however, was that, not only was she unsuccessful in consistently producing these transformative changes, but that she struggled even with the mimetic task of providing her students with information and skill. At the time of this study, she was determined to keep striving. I worry that if she continues to see a discrepancy between the teacher she wants to be and the teacher that her reality allows her to be, that she, like so many other new teachers may leave the profession.

## DISCUSSION

David and Kate made clear that they recognize the competing forces at play in their educational contexts, and that the contexts of their field experiences have caused

them to reflect upon the ways in which they can achieve a personal balance. In Alsup's (2006) words, they have entered the "borderland" (p. 9). Such critical awareness and reflection is probably the most important lesson that they could have taken away from their experiences. They understand that excellence in teaching may be broader and deeper than they expected when they first began their field placements, and they are now struggling to reconcile their new understandings with their previous beliefs, and to forge new identities that will allow that reconciliation to occur.

### *Implications for Practice*

Attrition is a serious concern for the teaching profession (Hong, 2010). According to Cooper & Alvarado (2006), only 40 percent of those who graduate with teaching credentials actually become teachers (p. 1), and between 30 and 50 percent of teachers leave the profession within the first five years (p. 17). They do so for a wide variety of reasons "closely associated with the teacher's own sense of self and identity as a teacher, which have been constructed, challenged, and modified throughout preservice teacher education and in-service teaching experience" (Hong, 2010, p. 1531). I argue that an important part of that construction is the way in which new teachers conceptualize excellence in teaching and measure themselves against that conception. Given this, I move toward recommending that teacher educators explicitly discuss constructions of excellence with their preservice teachers and reinforce the fact that a variety of indicators exist by which teachers can measure their own success.

Pillen, Den Brok, & Beijaard (2013) established that "professional identity tensions may be affected by the support and other activities provided by teacher educators and mentors in schools" (p. 95). Findings from this study may also be of interest to teacher educators who may wish to analyze their own contexts to understand how their preservice teachers are struggling to synthesize the competing conceptions of excellent teaching inherent being both challenged and reinforced by their work in university classrooms and K-12 schools. As Alsup (2006) believed, "in order to become successful teachers, university students must develop a holistic understanding of their personal and professional identities and the intersections and contradictions among them" (p. 15). By indicating to preservice teachers that we, as teacher educators, are aware of this tension, we can both validate their feelings of contradiction and help them to negotiate those feelings. Jackson (1986) noted that most educational research studies "are normative rather than descriptive; that is, they are designed to come

up with better ways of teaching rather than to understand what teachers do and why they do it" (pp. 139-140). Case studies of the experiences of other preservice teachers, such as the ones of David and Kate presented here, should be shared with preservice teachers before they enter the field so they know such struggles are normal.

### *Implications for Research*

This results of this study concur with the assertion of Pillen, Den Brok, & Beijaard (2013) that "contradictory institutional attitudes" (p. 89) about teaching and learning to teach may produce significant tensions for preservice teachers. Their study was based upon questionnaires administered to a large group of preservice teachers, but the authors recommended that future researchers explore in-depth interviewing of preservice teachers to investigate "the extent to which professional identity tensions influence teachers' professional identities" (p. 95), as I have done here.

Though this study affirmed the role of constructions of excellent teaching in identity formation of preservice teachers in this context, it did not reveal specific strategies or experiences that had proven particularly advantageous in helping preservice teachers negotiate those tensions. Future researchers may consider inquiry directed at establishing such strategies and experiences by identifying teacher candidates who have successfully negotiated significant tension and probing to determine what circumstances helped them to do so. Additionally, since this study was situated entirely within the context of a single teacher preparation program, large scale survey research along the lines of that conducted by Pillen, Den Brok, & Beijaard (2013), but focusing on constructions of excellent teaching and its interplay with professional identity could help to determine whether or not the findings of this study are representative only of candidates in this particular context, or if they might be generalizable to majority of teacher candidates.

*Author's Note:* The author would like to thank Professor Elizabeth Kronk Warner, University of Kansas Law School; Mr. Dean Richards IV, University of Kansas Department of Curriculum & Teaching; and Dr. Heidi Hallman, University of Kansas Department of Curriculum & Teaching for their critiques of this manuscript.

## REFERENCES

- Akkerman, S. F., & Meijer, P. C. (2011). A dialogical approach to conceptualizing teacher identity. *Teaching and Teacher Education, 27*(2), 308–319.
- Alsop, J. (2006). *Teacher identity discourses: Negotiating personal and professional spaces*. Urbana, Illinois: National Council of Teachers of English.
- Aristotle. (1934). *Nicomachean ethics*. (H. Rackham, Ed.). Cambridge, MA: Harvard University Press.
- Ball, D. L., & Forzani, F. M. (2009). The Work of Teaching and the Challenge for Teacher Education. *Journal of Teacher Education, 60*(5), 497–511. doi:10.1177/0022487109348479
- Balli, S. J. (2011). Pre-service teachers' episodic memories of classroom management. *Teaching and Teacher Education, 27*(2), 245–251. d
- Beijaard, D., Meijer, P. C., & Verloop, N. (2004). Reconsidering research on teachers' professional identity. *Teaching and Teacher Education, 20*(2), 107–128.
- Berliner, D. C. (1986). In Pursuit of the Expert Pedagogue. *Educational Researcher, 15*(7), 5–13.
- Bullough, R. V. J. (2005). The Quest for Identity in Teaching and Teacher Education. In G. Hoban (Ed.), *The missing links in teacher education design: Developing a multi-linked conceptual framework* (pp. 237–258). The Netherlands: Springer.
- Calabria, F. (1960). Characteristics of effective teachers. *Educational Research Bulletin, 39*(4), 92–100.
- Chen, J., Brown, G. T. L., Hattie, J. A. C., & Millward, P. (2012). Teachers' conceptions of excellent teaching and its relationships to self-reported teaching practices. *Teaching and Teacher Education, 28*(7), 936–947. doi:10.1016/j.tate.2012.04.006
- Chingos, M. M., & Peterson, P. E. (2011). It's easier to pick a good teacher than to train one: Familiar and new results on the correlates of teacher effectiveness. *Economics of Education Review, 30*(3), 449–465.
- Chong, S. (2011). Development of teachers' professional identities: From pre-service to their first year as novice teachers. *KEDI Journal of Educational Policy, 8*(2), 219–233.
- Cochran-Smith, M., & Lytle, S. (2006). Troubling images of teaching in No Child Left Behind. *Harvard Educational Review, 76*(4), 668–697.
- Cooper, J., & Alvarado, A. (2006). *Preparation, recruitment, and retention of teachers*. Brussels: International Academy of Education.
- Cooper, J., & He, Y. (2012). Journey of "Becoming": Secondary Teacher Candidates' Concerns and Struggles. *Issues in Teacher Education, 21*(1), 89–108.
- Delahunty, J. (2012). "Who am I?": Exploring identity in online discussion forums. *International Journal of Educational Research, 53*, 407–420.
- Denzin, N. K., & Lincoln, Y. S. (2005). Introduction: the discipline and practice of qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage Handbook of Qualitative Research* (3rd ed., pp. 1–32). Thousand Oaks, CA: Sage.
- Ellen, R. F. (1984). *Ethnographic research: a guide to general conduct*. New York: Academic Press.
- Erlandson, D., Skipper, B. L. B., Allen, S. D. S., & Harris, E. L. EL. (1993). *Doing naturalistic inquiry: A guide to methods*. London: Sage.
- Feldman, K. (1997). Identifying Exemplary Teachers and Teaching: Evidence from Student Ratings. *Effective Teaching in Higher Education: Research and Practice, 368–395*.
- Fenstermacher, G. D., & Richardson, V. (2005). On making determinations of quality in teaching. *Teachers College Record, 107*(1), 186–213.
- Franzak, J. (2002). Developing a teacher identity: The impact of critical friends practice on the student teacher. *English Education, 34*(4), 258–280.
- Friesen, M. D., & Besley, S. C. (2013). Teacher identity development in the first year of teacher education: A developmental and social psychological perspective. *Teaching and Teacher Education, 36*, 23–32.

- Galman, S. (2009). Doth the lady protest too much? Pre-service teachers and the experience of dissonance as a catalyst for development. *Teaching and Teacher Education, 25*(3), 468–481.
- Getzels, J. W., & Jackson, P. W. (1963). The teacher's personality and characteristics. In N. L. Gage (Ed.), *Handbook of research on teaching* (pp. 506–582). Chicago: Rand McNally.
- Glaser, B. G., & Strauss, A. (1967). *The discovery of grounded theory*. Hawthorne, NY: Aldine.
- Greene, M. (1984). “ Excellence,” Meanings, and Multiplicity. *The Teachers College Record, 86*(2), 283–296.
- Hochstetler, S. (2011). Focus on Identity Development: A Proposal for Addressing English Teacher Attrition. *The Clearing House, 84*, 256–259.
- Hong, J. Y. (2010). Pre-service and beginning teachers' professional identity and its relation to dropping out of the profession. *Teaching and Teacher Education, 26*(8), 1530–1543.
- Horn, I., Nolen, S., Ward, C., & Campbell, S. (2008). Developing practices in multiple worlds: The role of identity in learning to teach. *Teacher Education Quarterly, Summer*, 61–73.
- Jarvis-Selinger, S., Pratt, D., & Collins, J. (2010). Journeys toward becoming a teacher: Charting the course of professional development. *Teacher Education Quarterly, Spring*, 69–95.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.
- Marshall, C., & Rossman, G. B. (2006). *Designing qualitative research* (4th ed.). Thousand Oaks, CA: Sage.
- Merriam, S. B. (2001). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass.
- Noddings, N. (2001). The Caring Teacher. In V. Richardson (Ed.), *Handbook of research on teaching* (4th ed., pp. 99–105). New York: American Educational Research Association.
- Oruç, N. (2013). Early Teacher Identity Development. *Procedia - Social and Behavioral Sciences, 70*, 207–212.
- Pillen, M. T., Den Brok, P. J., & Beijaard, D. (2013). Profiles and change in beginning teachers' professional identity tensions. *Teaching and Teacher Education, 34*, 86–97.
- Poulou, M. (2007). Student-teachers' concerns about teaching practice. *European Journal of Teacher Education, 30*(1), 91–110.
- Rawls, J. (1971). *A theory of justice*. Cambridge, MA: Belknap Press.
- Seidman, I. (2006). *Interviewing as qualitative research* (3rd ed.). New York: Teachers College Press.
- Sexton, D. (2008). Student teachers negotiating identity, role, and agency. *Teacher Education Quarterly, 35*(3), 73–89.
- Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage Publications.
- Stake, R. E. (2005). Qualitative case studies. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (3rd ed., pp. 443–466). Thousand Oaks, CA: Sage.
- Strauss, A., & Corbin, J. (1994). Grounded theory methodology: an overview. In N. K. Denzin & Y. Lincoln (Eds.), *Handbook of Qualitative Research* (p. 273–). London: Sage.
- Thomas, L., & Beauchamp, C. (2011). Understanding new teachers' professional identities through metaphor. *Teaching and Teacher Education, 27*(4), 762–769.
- Wang, J., Lin, E., Spalding, E., Klecka, C. L., & Odell, S. J. (2011). Quality Teaching and Teacher Education: A Kaleidoscope of Notions. *Journal of Teacher Education, 62*(4), 331–338.
- Webb, M. (2005). Becoming a secondary-school teacher: The challenges of making teacher identity formation a conscious, informed process. *Issues in Educational Research, 15*, 1–15.
- Yin, R. K. (1994). *Case study research: Design and methods* (2nd ed.). Thousand Oaks, CA: Sage.



# Cross-Age, Cross-Content Modeling: Improving Teacher Credential Candidate Skill at Adapting and Modifying

Mira Pak  
Greg Knotts  
Phyllis Gudoski

**Abstract:** A team of three instructors in a collaborative teacher credential program, each representing three departments (Elementary, Secondary, and Special Education), modeled concrete, implementable literacy activities that spanned grade levels, content areas, and ability levels to examine if modeling in such a manner would yield better candidate understanding of, and skill in, adapting and modifying classroom instruction. We included a metacognitive narrative, explicitly deconstructing our reasoning for modeling the adaptations and modifications we made in our literacy activities, in order to help teacher candidates find more relevance in those examples being modeled. The study used a pre and post-survey and a culminating assignment to determine the efficacy of these theory-into-adapted-activity cycle presentations. The results of the study indicated that teacher candidates are better able to implement those strategies into their teaching after this partnering of a metacognitive narrative with the overt modeling of these literacy strategies across grade level, content area, and ability level.

*About the authors:* Dr. Mira Pak is an associate professor in the Secondary Education Department at California State University, Northridge. She is Student Teaching Coordinator and Graduate Coordinator. Dr. Greg Knotts is a professor in the Elementary Education Department at California State University, Northridge. He is the Director of New Faculty Orientation and Programs and Coordinator of the Queer Studies Program. Phyllis Gudoski is faculty in the Special Education Department at California State University, Northridge. She is the K-12 Coordinator of the Accelerated Collaborative Teacher (ACT) Preparation Program for Elementary, Secondary and Special Education credential candidates.

**Keywords:** modeling, literacy, strategies, instruction, elementary, middle school, high school

## INTRODUCTION

Few things are more demoralizing for an education instructor than when, after modeling a carefully planned lesson integrating theory and practical application, preservice candidates say, “That was nice, but it won’t work for my students.” Credential candidates often do not recognize how an activity can be used in their specific (and limited) experience and therefore are quick to dismiss it as irrelevant. Because they often are not yet facile in their ability to recognize the relevance and possibilities in an activity meant for their own grade level and/or content area, let alone another grade level/content area, they often have a difficult time modifying activities from one grade level to another, from one content area to another, or from one student ability level to another.

Even in the rich cross-content, cross-grade level environment of the teacher preparation program in which we teach, where three departments (Special Education, Elementary Education, and Secondary Education) share a year-long ‘Core class’ focusing on special populations in urban education, the candidates still request more activities that concretize the theoretical constructs that shape the curriculum: “include some more practical examples when discussing theories” (student evaluation). This comment is not unusual, despite the fact that practical examples are consistently modeled and discussed. Sheridan-Thomas (2007) explain that modeling is a tool in assisting credential candidates to make connections between theory and application because through the

modeling, the instructor puts the theory into action and familiarizes credential candidates with “how and why” the strategies can be used (p. 139). Although activities are always modeled, rather than keeping an open mind as to how they might adapt or modify the sample activity to fit the needs of their specific student population, many preservice teachers prematurely believe that the activity will not be viable with their specific group of students.

Therefore, our challenge was to assist credential candidates in understanding how to view sample classroom activities as a starting point for their own adaptations and modifications. We were experiencing the phenomenon that learners in any context often need an example that matches their own experience and schema in order for the model to be relevant (Schwarz et al., 2009). Student evaluations called for more examples modeled in class, so we wanted to intentionally provide those examples. Our hope was that by modeling concrete and explicit adaptations and modifications (across grade levels, content areas, and ability levels), we would make the process metacognitive whereby candidates would now see and experience the alterations to planning and implementation being made, motivating them to believe they could do this adaptation process themselves. Experienced educators can watch, for example, a comprehension lesson for an eighth grade reading activity in algebraic word problems being demonstrated, while simultaneously considering how to adapt that same activity to complex, text-heavy simulation scenarios in social studies for third graders. Less experienced educators are much less able to make that leap (Udvari-Solner, 1996).

With that in mind, we applied for a grant that sought interdisciplinary education projects because we wanted to take advantage of the interdisciplinary, interdepartmental, cross-age nature of the credential program in which we teach. Our team of three instructors, each representing the three departments discussed above, decided to model concrete, implementable literacy activities/strategies that spanned grade levels, content areas, and ability levels to see if modeling in such a manner would yield better candidate understanding of, and skill in, adapting and modifying classroom instruction. We included a metacognitive narrative, explicitly deconstructing our reasoning for modeling the adaptations and modifications we made in our lesson examples, in order to help teacher candidates find more relevance in those examples being modeled. We discovered that this partnering of metacognitive narrative with the overt modeling of these literacy strategies across grade level, content area, and ability level, assisted teacher candidates in being better able to implement those strategies into their teaching.

## BACKGROUND

Modeling an activity with a metacognitive narrative allows students a view of the rationale supporting the activity in an explicit manner (Vacca & Vacca, 2008). Teacher educators are typically doing more than just modeling activities; when we model best practices, we, as instructors, also validate how we want our own credential candidates to teach in their classrooms (Sheridan-Thomas, 2007). This confirms that we believe in these practices so much that we use them to teach our own courses (Sands & Barker, 2004).

While modeling activities in preservice coursework is necessary, simply modeling an activity does not automatically lead to credential candidates understanding the activity and how to use it in their own teaching contexts. Newer teachers are usually “most familiar with teacher-centered instructional strategies and often revert to them when under pressure” (Freiberg, 2002, p. 58). These teacher-centered instructional strategies are often ones that appeal to traditionally successful learners with audio-visual and verbal strengths, usually the strengths of the new teacher himself. In order to expand our candidates’ understanding of how to learn an activity and then begin the process by which to adapt or modify it, thereby ideally saving them from reverting to non-interactive teaching methods under stress, we knew we needed to “go beyond merely presenting instructional strategies” (Reinking, Mealey, & Ridgeway (1993) in Bean, 1997, p. 155). To this effect, our goal was to model how a teacher could adapt or modify an existing strategy to be an effective teaching tool for that teacher’s particular diverse classroom situation (Bean, 1997) – in this case, adapting or modifying literacy activities for grade levels, content areas, and individual special needs.

The Core class in which this study took place is not a methods class, nor is it a literacy class; it is a foundational course focusing on the needs of diverse learners in urban settings. So our focus was not on strategies as such, but on how to adapt and modify those strategies for a variety of learners. Bean (1997) advocates, based on his study of how student teachers chose content area literacy activities for the classroom, that “preservice teachers may benefit from experiencing a smaller number of strategies and determining how they have been adapted for diverse sociocultural contexts” (p. 162). As a result, with so many literacy strategies to choose from, we decided to model only two and show how those activities could be explicitly adapted and modified for any classroom population. While introducing teacher candidates to a plethora of literacy strategies was tempting, we knew that our goal was not to teach them new literacy strategies so

much as the skill of adapting and modifying activities for their students' needs. This goal aligned with the existing course content; the credential program's Core class focuses on addressing diverse student populations, not literacy methods per se.

With this goal in mind, we knew we needed to implement three things. First, we needed to infuse the topic of adapting and modifying activities throughout the course in order to capitalize on "how powerful the ideas in the course could be if the entire course was taught by modeling concepts of differentiation as well as concepts related to other recommended curriculum and instructional principles" (Sands & Barker, 2004, p. 45). Time is always short in supply, but we knew we needed to do more than just touch on the skill of adapting and modifying for one class period or at the end of the semester. Even infused throughout, adapting and modifying are difficult concepts and skills to master; clearly, introducing the topic once would be insufficient. Second, we planned to build in structured and guided opportunities for the teacher candidates as a group to immediately practice, reflect, and discuss each stage of curriculum development (Sands & Barker, 2004). If we were to truly take advantage of our rich and varied credential candidate population, we needed to give them class time in groups to process and reflect upon the "how" and "why" of the literacy activities and their adaptations and modifications. In this way, our credential candidates could benefit from the views of not only grade-alike and content-alike peers but also cross-grade and cross-content peers. We believed that the learning would be enhanced if the credential candidates had multiple opportunities to apply and discuss what they had just learned in meaningful contexts (Allsopp et al., 2006) with diverse peer responses.

Third, in order to create a cross-content, cross-grade literacy activity experience for the credential candidates, we knew that we, as the instructors, needed to collaborate. Discussing the course content, objectives, and schedule in relation to the grant's goal, the three of us (in three different departments) became "models of interdisciplinary instruction in action" (Allsopp et al., 2006, pp. 20-21). We met to: 1) discuss each literacy activity, 2) adapt it for another content area and/or grade level, and 2) modify it for a student with a special needs profile. In this way, we ended up modeling more than just a literacy activity; we also modeled interdisciplinary education.

## CONTEXT

The subjects for this project were 87 preservice students in one pathway of our credential preparation program in a college of education at a large state university in Southern California. This particular pathway was collaboratively developed and implemented by the university and a large unified school district, also in Southern California, through the support of an Annenberg initiative and a five-year grant (1995-2000) from the Weingart and Ford Foundations. Additional funding from the U.S. Department of Education (2001-2004) and Orfalea Foundation (2009-10) allowed us to continue to develop and implement an exemplary practices grant for this pathway.

This pathway is both accelerated and collaborative. It is a one-year cohorted program for full-time students interested in an elementary, secondary, or special education credential. The program consists of three components: a year-long foundational Core class for elementary, secondary, and special education credential candidates to take together with a focus on special populations and multicultural issues in urban education; specialization classes; and fieldwork supported by highly-qualified cooperating teachers.

## PROCEDURES

We began implementing our project in the first semester of the Core class since it is uniquely cross-departmental, interdisciplinary, and cross-grade level. For example, if we planned for the credential candidates to learn the pedagogy, then participate in a literacy activity that applied the theory for an elementary population, accompanied by a metacognitive narrative from the elementary education professor, candidates then immediately participated in the same activity/strategy, adapted for a secondary content area and grade, accompanied by a metacognitive narrative from the secondary education professor. Directly afterwards, the candidates participated in the same activity, modified for a special needs student population with a metacognitive narrative from the special education professor. This theory-into-adapted-activity cycle was followed by reflection and processing. By metacognitive narrative, we mean that the professor presenting and modeling the activity expressed aloud the thinking processes for how and why each step of the activity served to teach students the intended skills and knowledge. Explaining aloud the instructional choices consciously made by the instructor served to assist the credential candidates to see and understand how the instructor thought about her own

awareness of the activity, the students, and regulation of or changes needed to the activity (McTavish, 2008).

As mentioned above, we decided to present literacy-based activities/strategies. There were two literacy activity modeling presentations throughout the first semester: the theory-into-adapted-activity cycle presented by the elementary, secondary, and special education faculty members. A third literacy activity was presented by two guest teachers (one elementary and one secondary) who both presently teach in the partnership school district. These current practitioners validated the point that effective classroom teachers adapt classroom-proven, research-based activities, regardless from where they come.

Both at the beginning and end of the semester, the credential candidates took a survey that asked about their confidence in literacy activities and their ability to adapt or modify them for their own students' needs. All project presenters met regularly to plan the sessions, debrief after each session, and review the pre- and post-survey data. Since most of the credential students were student teaching in urban schools with very diverse populations, we also discussed the importance of demonstrating how these strategies could expressly support the learning needs of English learners and students with special needs.

For the first theory-into-adapted-activity cycle presentation, the team decided to present a strategy for organizing vocabulary (or concepts): a "sort." We began by explaining why and for what purpose sorts are used by teachers. The secondary education professor modeled, with her metacognitive narration, a closed-and-open-word sort with the class using first grade level transportation words from a social studies text. She then handed out words from a social science chapter for grade ten, and the credential candidates completed an open-word sort in pairs.

The elementary education professor then modeled a second grade geometry shape sort; he provided the categories (e.g., cube, cylinder, sphere, cone, pyramid) and flashcards with pictures of shapes on one side and their corresponding names on the other side. Accompanied by his metacognitive narrative, the student teachers started the sort with him as a class and then completed the task in small groups on their own. The candidates, in pairs, were then given a set of word problems from a ninth grade text involving algebraic terms and asked to sort the problems by algebraic task, demonstrating how to help students sort higher order and multi-step tasks into like groups prior to engaging with

mathematical computation.

For the last round of the sort activity, the special education professor brought a box of manipulatives to the front of the class and placed them on a table. She explained that she had modified the elementary geometry sort for a student with special needs, sharing part of the hypothetical student's accommodations. She asked the credential candidates to help her sort the seemingly random items into the geometric categories. The manipulatives were items she had brought from her home that resembled the pictures from the previous sort. For example, for the cylinder category, she brought a can of corn and a candle. Following the three examples of modeling, the credential candidates discussed the purposes of a sort, the value of the activity, how they could use different sorts in their grade levels/content areas, and where on Bloom's Taxonomy the activity fell. Three weeks later, for the second theory-into-adapted-activity cycle presentation, the faculty modeled two activities: sentence starters and sentence templates. Prior to engaging the credential candidates in an activity, we discussed how both of these strategies assist students to see academic language structures and scaffold academic language use to express their own ideas. The elementary education professor first modeled sentence starters for whole-class discussion about facts and opinions. He handed out a sheet with sentence starters that prompted a fourth grade class to add to a whole-class discussion using formats such as, "I agree with X, and I would like to add Y." The credential candidates spent a few minutes reviewing and discussing the use of the sentence starters, and then used them with each other.

The secondary education professor then presented some templates for academic writing from Birkenstein and Graff's (2006) *They Say/ I Say: The Moves that Matter in Academic Writing*. After the professor explained the use and purpose of the templates in academic writing, the credential candidates spent a few minutes reading through an excerpt from an 11<sup>th</sup> grade literature anthology, and then used a couple of the templates to produce their own sentences about the excerpt.

For the last iteration of sentence starters and templates, the special education professor explained that she had modified the secondary template activity for a student with special needs. After sharing the hypothetical student's accommodations, the special education professor then handed out the templates with a word bank (list of helpful words) at the end. She then completed one of the sentence templates with the class, using a word from the word bank. She also showed the class how they might modify the actual template itself by adding in

some words so that the template is more complete with fewer 'unknown' spaces. The credential candidates then spent time modifying one of the other templates. After all three modeling presentations, the credential candidates discussed the purposes of the sentence starters and templates, the value of the activity, how they could use different sentence starters and templates in their grade levels/content areas, and where on Bloom's Taxonomy the activity fell.

Four weeks later, the guest elementary and guest secondary teacher demonstrated how they use sorts, sentence starters, and templates in their classrooms. They brought handouts they use with their classes and explained and discussed their instructional choices. After the presentation, the professors debriefed the learning from all three presentations with the credential candidates, asking how the activities differed in purpose, content, format, adaptation, and modification. In the debriefing after the third presentation, credential candidates reported that they were better able to understand how to adapt, modify, and implement the strategies in their particular grade level/content area. However, there was agreement that more practice was needed in how to modify an activity/strategy for English learners, students with special needs, and students who are performing below grade level.

Throughout the second semester of instruction in the Core class, the cross-age cross-content area literacy activities were referred to and used as shared models in classroom examples of other topics, creating a shared schema for all candidates. In week 15 of the second semester, candidates submitted a final assignment in which they described a literacy activity and then adapted or modified it for a different student population, in the same way that had been modeled in the three activities from the first semester. Candidates were also given the post-survey after the course content was completed in the second semester.

## FINDINGS AND DISCUSSION

In the pre-survey data using a Likert scale of 1 (not confident at all) to 5 (very confident), the credential candidates initially responded that they had some idea of what discrete content area literacy examples were with some confidence (3.3). They were much less confident in their belief in their ability to describe a cross-age content area literacy example (2.69), and even less confident in their ability to adapt a cross-age content area literacy example (2.45). This indicated that the credential candidates initially understood the

idea of the importance of content area literacy (the need for curricular areas outside of the Language Arts to also have a literacy focus), but did not have confidence in describing or adapting a cross-age example of content area literacy. This indicated that if the credential candidates could see a model of a content area literacy example that was immediately relevant for their fieldwork, they could likely apply that example and find meaning for it. However, if an example was modeled, for instance, in a different grade level (or perhaps even a different content area), credential candidates had a much more difficult time making meaning from those examples or finding relevance for them in their own practice. This affirmed the anecdotal evidence on which this study was originally conceived. As mentioned above, the grant was applied for based on the exit surveys from the last three years of credential candidates in this accelerated, collaborative pathway where an overwhelming number of students stated some version of the theme "nice idea, but it will not work in my class."

Those same exit surveys also indicated a need for more practical, hands-on modeling of strategies and practices for the classroom. Comments like, "I need to see it to do it" and "We talked about some great stuff in class, but it wouldn't work for my grade" represent a feeling of frustration on the part of credential candidates in the Core class that more than discussion was necessary. Although the Core class is not a methods course, the students seemed to still want more practical applications for the ideas and theories the class directly covers. These kinds of comments indicated that there was a need for even further explication to make the examples and discussions more concretely and explicitly linked across grade levels.

Interestingly, however, on the pre-survey data (see Table 1), there was an overwhelming sense of confidence that credential candidates in both elementary and secondary specializations felt that they could adapt an example from the alternate specialization. Elementary candidates felt that they could adapt a secondary example (3.5) and secondary candidates felt they could adapt an elementary example (3.62). However, when asked earlier about adapting a "cross-age content example," the candidates responded with much less confidence (2.45). Unsurprisingly, the special education candidates responded with even higher confidence about their ability to modify grade level examples (3.79 for a secondary example and 3.95 for an elementary example). This confidence seems to align with the general culture of special education and the focus on modifying instruction to meet the needs of particular students. Interestingly, the disparity in candidate responses about a "cross-

age” example and the question on specific elementary or secondary examples seemed to indicate a general misconception about the topic of content area literacy in general, or perhaps the responses reveal a fear of not being able to do something and not wanting their professors to know that.

After the implementation of the direct modeling and adapting of cross-age content area examples, the exit survey and subsequent applied assignments make a clear statement that the candidates gained a great deal of insight into the utility of examples modeled in different

grades. In the post-survey, candidates overwhelmingly felt confident that they could describe a cross-age content area example (4.69) as well as adapt cross-age content area examples (4.87). When asked directly about modifying secondary or elementary examples for the alternative settings, candidates, although originally confident in the pre-survey, were overwhelmingly confident about their ability to implement cross-age examples into their classrooms. Secondary candidates said they could adapt elementary examples (4.87) and elementary candidates said they could adapt secondary examples (4.75) with a much higher degree of confidence.

**TABLE 1: Self-Assessed Confidence Levels**

Survey Item/Question	Pre-survey	Post-survey
I can describe a cross-age content example	2.69	4.69
I can adapt a cross-age content example	2.45	4.87
Elementary adapt secondary example	3.5	4.75
Secondary adapt elementary example	3.62	4.87
Special education adapt secondary	3.79	4.87
Special education adapt elementary example	3.95	4.95

There was the same kind of growth from pre- to post-survey in the candidates’ ability to apply one content area to a different one (growth from 3.54 to 4.65) in terms of the specifically modeled literacy strategies and practices (sorts, sentence starters, templates). There was clear and evident growth in the candidates’ ability to apply the modeled activities to their own practice and find meaningful relevance from the examples for their own teaching settings.

This same growth was evident in the final applied assignment where candidates had to take an existing content area literacy activity that they had used in their classrooms and modify or adapt it to meet the needs of different students or apply it in a different content area. Credential candidates provided an overwhelming array of creative and innovative strategies, but a majority of them (66 of 87) utilized the strategies modeled in class (sorts, sentence starters, and templates) in some variant. It was clear that the explicit and concrete applications discussed and modeled in class had an impact on their own classroom practice. While this study modeled practices and strategies in cross-age content area literacy, there is easily room for expanding this practice to include other curricular topics or content areas.

## CONCLUSION

Our team of instructors from Elementary Education, Secondary Education, Special Education, and the partnership school district modeled pedagogy for the credential candidates. We then implemented a concrete activity to demonstrate the pedagogy in action for one student population/grade/content area with a metacognitive narrative, deconstructing the process from beginning to end. We immediately followed that example by modelling an adaptation of the activity for a different student population/grade/content area with a metacognitive narrative, and finished with a modification of the activity for a special needs profile with a metacognitive narrative. Each theory-into-adapted-activity cycle was followed by group discussion, processing, and reflection.

While the process required instructors in multiple disciplines to collaborate and provide a model for interdisciplinary teaching, which might be logistically difficult without the support of a grant or interdepartmental support, our original grant goal of increasing the candidates’ skills in adapting and modifying activities to meet their students’ needs was met. Students reported in discussion sessions and on their post-surveys better understanding and having more confidence in adapting

and modifying activities to meet their students' needs. They also reported that they would need (even) more modeling to feel confident about adapting activities for specific student sub-groups: English learners, students with disabilities, and students who are performing below grade level – this was not unsurprising for teacher candidates not yet experienced with the multiplicity of learners they typically encounter across the PreK-12 context.

We discovered that partnering a metacognitive narrative with overt modeling of literacy strategies across grade level, content area, and ability level, assisted teacher candidates in being better able to implement those strategies into their teaching. But the real learning is to model, model, and model some more (Bal & Doganay, 2014). Until teacher candidates have a broader experience of contexts (grade levels, content areas, and ability levels) the proverbial 'student' remains somewhat abstract and we must 'bring' those students to our own classrooms. We must continue to model pedagogical strategies, yes, but we must also explicitly model how to adapt and modify those strategies for other populations. It is insufficient to say that "it will work" without demonstrating at least one other context (grade level, content area, ability level) that shows it working. In this way, the teacher candidates will stop believing "it won't work" and start making the leap to those other contexts themselves. If we become more relevant, they will find relevance – in us, for their students, and for their future teaching practice.

## REFERENCES

- Allsopp, D. H., DeMarie, D., Alcarez-McHatton, & Doone, E. (2006). Bridging the gap between theory and practice: Connecting courses with field experiences. *Teacher Education Quarterly* (Winter), 19-35.
- Bal, A. P., & Doganay, A. (2014). Improving primary school prospective teachers' understanding of the mathematics modeling process. *Educational Sciences: Theory and Practice*, 14(4), 1375-1384.
- Bean, T. W. (1997). Preservice teachers' selection and use of content area literacy strategies. *The Journal of Educational Research*, 90(3), 154-163.
- Freiberg, H. J. (2002). Essential skills for new teachers. *Educational Leadership* (March), 56-60.
- Graff, G., & Birkenstein, C. (2006). *They say/ I say: The moves that matter in academic writing*. New York, NY: W.W. Norton & Company.
- McTavish, M. (2008). "What were you thinking?": The use of metacognitive strategy during engagement with reading narrative and informational text. *Canadian Journal of Education*, 31(2), 405-420.
- Sands, D. I., & Barker, H. B. (2004). Organized chaos: Modeling differentiated instruction for preservice teachers. *Teaching & Learning*, 19(1), 26-49.
- Schwarz, C. V., Reiser, B. J., Davis, E. A., Kenyon, L., Achér, A., Fortus, D., Shwartz, Y., Hug, B., & Krajcik, J. (2009). Developing a learning progression for scientific modeling: Making scientific modeling accessible and meaningful for learners. *Journal of Research in Science Teaching*, 46(6), 632-654.
- Sheridan-Thomas, H. K. (2007). Making sense of multiple literacies: Exploring pre-service content area teachers' understandings and applications. *Reading Research and Instruction*, 46(2), 121-150.
- Udvari-Solner, A. (1996). Examining teacher thinking: Constructing a process to design curricular adaptations. *Remedial and Special Education*, 17(4), 245-254.
- Vacca, R. T., & Vacca, J. L. (2008). *Content area reading: Literacy and learning across the curriculum*. Boston, MA: Pearson.

# The Significance of Principal Preparation and Education Law: Principals' Perceptions of Students' Rights

Tanjula Petty

**Abstract:** The legalities of students' rights will continue to plague the daily operations of public schools; therefore, research should robustly seek to investigate preparation programs, the course content of education law courses, and the impact they have on principals' knowledge in education law. The purpose of this quantitative study was to determine the variation in self-perceptions of their knowledge of education law related to students' rights by type of training received and by their previous involvement in school litigation. The Alabama Principals' Legal Survey (APLS), a forced-choice 44-item instrument, was used to collect demographic and professional information. The survey was submitted to 331 principals via the simple random sampling technique. There were 312 surveys returned, yielding a 94.3% response rate. Data were analyzed in two ways: descriptive and inferential statistics. The Independent T- Test was employed to determine if there was a statistically significant difference in the mean self-ratings of the principals' knowledge of education law (dependent variable) by the independent variables. There is a need for research to remain consistent in increasing the legal knowledge of new and novice principals, and to provide recommendations to improve the delivery and pedagogical methods in preparation programs. Experts are of the same mind, concurring that it is important that school personnel are cognizant and proficient in education law.

**About the Author:** Dr. Tanjula Petty is the Vice President of Academic Affairs at Albany Technical College.

**Keywords:** Principal Preparation, Education Law, School Law

## INTRODUCTION

For nearly a century, the concept of *in loco parentis* was a guiding principle for the establishment of appropriate relationships between students and school personnel. Born out of English Common Law principles, *in loco parentis* emphasized not only the fiduciary responsibility entrusted to school employees, but their moral obligation to guide children appropriately during the course of their formative educational years (Blackstone, 1765). Legal challenges in schools were scarce because school personnel typically acted in the place of parents without question early in the 20th Century. However, as time passed, legal challenges began to escalate as the courts' interest in protecting students' rights increased significantly (Frels, 2000; Maranzano, 2001; Russo, 2005). The role of school personnel in educating children has evolved in the face of civil litigation, which has been very declarative about the individual rights afforded to children attending educational entities (DeMitchell, 2002; Zirkel & Richardson, 1989). Certified school

personnel acting *in loco parentis* have been authorized to exert reasonable control over students concerning academic expectations and conduct in educational institutions. Nevertheless, students enjoy many of the same constitutional rights as the adults who supervise them. For that reason, their rights must be acknowledged and valued by school personnel (Frels). Accordingly, public school personnel are tasked with providing safe and orderly school environments in which children can learn, without interfering with the personal liberties of their student populations (Eberwein, 2008; Reglin, 1992; Taylor, 2010). Public schools are mainly found in North America and supported by public funds. Notably, public schools are controlled and managed either by a government agency or by a governing body of whose members are appointed by a public authority or elected by public. The purpose of this study was to determine public school principals' self-perceptions of their knowledge of education law in the areas of compulsory attendance,

discipline, due process, freedom of expression (press and speech), religion, corporal punishment, search and seizure, and federal statutes.

The day-to-day operations of schools are becoming progressively influenced by legal decisions which have an overall effect on education and the legal rights afforded to all school stakeholders (Davis & Williams, 1992; Reglin, 1992). Several researchers have noted that school personnel must remain educated about the substance and depth of student rights issues in order to apply them to the day-to-day school operations (Alexander & Alexander, 2009; Dunklee & Shoop, 1986; Zirkel & Richardson, 1989). There is a need for all educators to be knowledgeable of laws surrounding educational institutions and the impact they have on school functions (Reglin). Sparkman (1990) emphasized that the legal landscape for school principals has changed considerably, and a year does not go by without the initiation of a legitimate federal challenge with huge implications for the day-to-day operations of educational entities.

Leadership preparation programs typically consist of educational administration or instructional leadership curricular offerings needed for principal certification (Calabrese, 1991). Darling-Hammond (2006, 2010) contended that colleges of education have an obligation to create programs that will aid prospective educators in becoming more astute with the legal, social, and cultural context of public education. Departments of education and institutions of higher education have also found themselves under public scrutiny for the lack of curriculum that emphasizes law within the context of education (Levine, 2005; Martin, 1983). Nationally, principal preparation programs are carefully analyzing their curricula and responding to the current challenges through meaningful change (Lauder, 2000), because knowledgeable and properly trained principals are a crucial element within schools (Buckner, 2002; Calabrese, 1991; Davis et al., 2005; Klinker, 2006). It is imperative that teacher education students, faculty, and administrators are aware of the actions and relationships which may possibly bring them to the courthouse (Reglin, 1992).

Eberwein (2008) asserted that in order for colleges of education to create useful and sufficient legal literacy, an assessment of legal knowledge among educators must be revealed by setting legal knowledge benchmarks. As society has become more litigious, it is essential for colleges of education to alter their curriculums to concentrate on legal issues that aspiring leaders will confront in their schools (Littleton, 2008; McLoughlin

et al., 1983; Reglin, 1992; Sparkman, 1990).

Colleges of education have been called upon to advance principal preparation programs to prepare future administrators to confront the leadership challenges that lie ahead in a rapidly shifting society (Calabrese, 1991). Moreover, by including legal training in educator preparation programs, colleges of education have the capability of raising the legal competency of educators. It also is essential that they prepare potential teacher candidates, as well as future school personnel, to recognize that ignorance of the law is unacceptable, and all educators should be required to become familiar with legal decisions that affect their daily work (Reglin, 1990).

Universities have operated under the assumption that preparation programs are adequate, and students are accountable for their education as well (Calabrese, 1991); yet, a comprehension study, *Educating School Leaders*, conducted by Levine (2005), declared that educational administration programs were considered inadequate and ineffective for preparing school leaders. Levine reported that 91% of principals reported that they had taken courses in education law, and many cited education law, as having the greatest impact on their jobs.

Peel, Wallace, Buckner, Wrenn, and Evans (1998) argued that universities have concentrated on presenting the latest trends and theories in educational leadership; however, practical proficiencies and skills that are applicable to knowledge are needed to provide aspiring leaders with real-world experiences. Therefore, universities, national professional associations, and schools should develop an alliance to cultivate programs that appropriately focus on the challenges faced by today school principals.

## SCHOOL LITIGATION PROBLEMS

Schools are paying between \$45,000 to \$400,000 annually for legal expenses incurred in the aftermath of legal challenges to the actions of their school personnel (Militello, Schimmel, & Eberwein, 2009; Petzko, 2008; Schimmel & Millitello, 2009; Underwood & Noffke, 1990). The excessive cost of education litigation is due, in part, to the decision making of school personnel who are not only unaware of the laws, but often are given misinformation about the protected rights of students and teachers. Public education has become a *hyper-legalized* enterprise in the United States (Hutton, 2009, p.1). Researchers have reported that, on average, there

are 3,000 legal claims filed annually against teachers and school personnel (Reglin, 1990, 1992; Stover & Cook, 2009).

The environments in which law and education operate are undividable (Heubert, 1997; Littleton, 2008). As society becomes more litigious, public school personnel are coming to the realization that they are not immune from litigation (Littleton, Higman, & Styron, 2001). Education law has become complex, limitless, and ever-changing (Dillion, 2009). The “volume of education litigation did undergo a veritable explosion in the 60s and 70s” (Zirkel & Richardson, 1989, p. 789); however, the litigation has leveled off over the past 30 years (Imber & Gayler, 1988; Zirkel, 2006a; Zirkel, 2006b; Zirkel & Richardson). On the other hand, Stover and Cook (2009) argued that the dynamics associated with the intersection of education and the law are not expected to dissipate in the near future, as the list of areas affected by legal issues expands.

Several studies have substantiated the notion that school personnel have insufficient knowledge of education law (Littleton, 2008). Portin (2004) conducted a study in which principals communicated about the quality of their preparation programs and the degree to which these programs actually prepared the principals for their leadership roles. The principals reported that their preparation programs offered little or no relationship to the reality of their actual responsibilities.

Farkas, Johnson, Duffett, and Foleno (2001) conducted a study in which 853 public school superintendents and 909 public school principals responded about the quality of their education leadership programs. Sixty-nine percent of the principals and 80% of superintendents in the study categorized the leadership programs in which they received their training as inadequate and unrelated to the realities of what is necessary to run today’s schools. Additionally, 35% of principals and 24% of superintendents acknowledged that very few leadership preparation programs concentrate on the practical training of how to deal with situations such as discipline, irate parents, and school safety (Farkas et al.; Lashway, 2003).

## **PREVIOUS EDUCATIONAL RESEARCH EXAMINING THE LEGAL KNOWLEDGE OF PRINCIPALS**

Several studies have examined the legal knowledge of school principals in different regions of the United States. Well known researchers in the field of education law have examined and acknowledged that the majority of the literature that relates to the school officials’ knowledge of education law comes predominantly from doctoral dissertations (Littleton et al., 2001; Littleton, 2008; Militello et al, 2009).

It is imperative that school personnel have a comprehensive level of knowledge related to education law, along with the capability to apply legal knowledge to practical situations that transpire in schools and are relevant to the operation of schools (Alexander & Alexander, 2012; Dunklee & Shoop, 2006; LaMorte, 2012; Schmidt, 2008; Zirkel, 1997). Researchers have documented that the knowledge base of education law is mounting at a swift rate, due to the increase in federal and state statutes that have a direct impact of the education profession (Doverspike & Cone, 1992; Eberwein, 2008; Littleton, 2001; Taylor 2001a; Taylor 2001b). Gullat and Tollet (1997) added that with the increase in legislation surrounding education, it is recommended that school personnel acquire more knowledge about the legal decisions that have an affect on their lives and students. Similarly, Reglin (1992), Sparkman (1990), and Taylor (2001a) acknowledged that school personnel should have a basic knowledge base of the most recurrent concerns that are often decided on in education law, in order to be effective educators. On the other hand, Sparkman (1990) asserted that it is almost impossible for educators to know everything there is to know about education law, especially since the law changes. Literature demonstrates that leaders’ increased knowledge base has favorable influences on their decision making and problem solving abilities (Mumford, Zaccaro, Harding, Jacobs, & Fleishman, 2000; Northhouse, 2013; Thomason, 1993). Consequently, there are numerous studies that have documented that educators lack the level of knowledge in education law to make effective decisions (Brabrand, 2003; Caldwell, 1986; Littleton et al., 2001; Littleton, 2008; Militello et al., 2009; Reglin, 1992; Schimmel & Militello, 2007).

In 1990, Clark surveyed superintendents, principals, and teachers in selected Mississippi school districts to determine if significant differences existed in their knowledge of the components of education law. Additionally, Clark examined the relationships between

the educators' years of experience and knowledge of the components of education law. This study was restricted to specific legal components, including freedom of expression (speech/press), search/seizure, religion, suspension/expulsion, school attendance, corporal punishment, child abuse, special education, school vandalism, and divorce/child custody. Clark developed and utilized the *Legal Knowledge Survey* instrument to measure Mississippi educators' knowledge of education law pertaining to student rights. The instrument included a demographic section and 10 scenarios that were linked to the 10 areas of education law. Clark (1990) reported that there was a "tremendous lack of knowledge" (p. 65) among superintendents, principals, and teachers in freedom of expression, freedom of religion, search and seizure, and corporal punishment.

Additionally, Osborn (1990) conducted a study assessing the legal knowledge of principals in South Dakota. However, Osborne only addressed selected statutes and court cases governing education in South Dakota. Utilizing a 40-item instrument developed specifically to address principals' knowledge in South Dakota, Osborn reported principals' scores ( $M=71.97$ ), signifying that principals' held a fair level of knowledge of education law. Particularly, Osborn noted that secondary principals' ( $M=29.47$ ,  $SD=3.17$ ) scored higher than the elementary principals' ( $M=28.31$ ,  $SD=3.01$ ).

Six years following Clark's (1990) study, Singletary (1996) received permission to partially replicate the work of Clark, also using the *Legal Knowledge Survey* instrument in South Carolina. The respondents included 42 superintendents, 40 principals, and 116 teachers, with 5 additional respondents not identifying their positions, for a total of 198 respondents. Singletary's study revealed that the principal respondents scored below the score range in the areas of freedom of expression ( $M=2.31$ ,  $SD=0.36$ ), religion ( $M=2.58$ ,  $SD=0.53$ ), suspension and expulsion ( $M=2.38$ ,  $SD=0.38$ ), school attendance ( $M=2.49$ ,  $SD=0.07$ ), search and seizure ( $M=2.78$ ,  $SD=0.83$ ), and corporal punishment ( $M=2.55$ ,  $SD=0.63$ ), revealing that principal respondents possess a low to moderate level of knowledge in the area of student rights. Singletary found that principals acquired an advanced level of knowledge relating to education law and student rights, compared to superintendents and teachers.

During the same year, Gordon (1996) conducted a study to determine the level of knowledge of West Virginia principals, using a ratified sample of  $n=136$  principals to represent the population of  $N=210$  principals. According to the findings in Gordon's (1996) study,

principals scored ( $M=29.18$ ,  $SD=3.65$ ), below the maximum score of 40 on the *Legal Knowledge Index Survey Instrument*. Gordon's findings reveal that principals in this study had an average knowledge of education law. Prior to Gordon's study, Caldwell (1986) conducted a study in Virginia focusing on four areas of education law including: student rights, teacher and administrator issues, church and state relations, and tort liability. Utilizing a 40-item true-false assessment of legal knowledge, the mean score for the respondents was 78.1%, concluding that the principal respondents have an "average knowledge of education law" (Caldwell, 1986, p. 77). Brabrand (2003) findings were similar to Caldwell and Gordon. Brabrand conducted a study with Virginia Public School principals. Brabrand sought to reveal the level of knowledge of Virginia Public School principals, as it related to the type, length/quantity, and recency of law preparation. Brabrand developed a true-false assessment comparable to Caldwell's. Brabrand reported that Virginia Public School principals, across all categories of education law, presented a fair level of education law knowledge. The study revealed that the principals' overall score was 29.36 out of 40, indicating that 73.3% answered correctly. Findings in this study revealed that church and state relations was principals' weakest area of education law.

In 1992, Reglin surveyed 290 South Carolina educators, including 43 principals, 63 assistant principals, and 184 teachers. Via a 15-item survey instrument, Reglin solicited information from participants about legal issues in public education, including prayer, Bible reading, student rights, teacher rights, handicapped students, corporal punishment, tracking, exit examinations, and school finance. Approximately 80% of the respondents answered one half of the items (8 out of 15) correctly on the survey instrument. Reglin (1992) concluded that the educators had an insufficient level of knowledge related to education law and the day to day operations of the school. Reglin (1992) urgently contended that requirements for school personnel to attend staff development in education law are needed.

Moreover, Schlosser (2006), a research associate of Littleton (2008), conducted a descriptive study to assess the level of education law knowledge of principal interns' in Texas. Schlosser compared the scores of the principal interns education law assessment based on the demographic variables. Schlosser collected data about pedagogy, methodology, and textbook usage in education law courses with 15 scenarios and questions requiring dichotomous responses on education law topics relevant to the principalship in university principal preparation. Schlosser designed the *Principal Intern Survey and*

*Assessment of Education Law* instrument, which was partially adopted from Littleton et al. (2001). There was a 52% ( $n=362$ ) response rate among the principal interns in 21 Texas university principal preparation programs. Schlosser (2006) reported that the principal interns scored an average of 70% on the assessment, denoting that they had an acceptable level of education law knowledge. Additionally, the cross tabulations exhibited a significant relationship for two assessment questions, on the topics of school finance and free speech. Also, the findings of the analysis of variance revealed no significant differences between education law assessment scores by demographics variables.

Under the direct leadership of well-known legal scholars Militello and Schimmel, Eberwein (2008) conducted an extensive nationwide study to reveal what secondary school principals know about education law as it relates to student rights and teacher rights and liabilities. Furthermore, the study sought to illuminate how often principals are legally threatened and sued. Utilizing the National Association of Secondary School Principals' (NASSP) database, a survey of all 8,000 members was delivered via a web survey delivery service, *Zoomerang*. The response rate was 6% ( $n=493$ ) to the 57 item *Principals' Education Law Survey*. Additionally, the participants were representative of 48 states, with the only exceptions being Vermont and the District of Columbia.

The *Principals' Education Law Survey* was designed to measure the respondents' knowledge of education law in the areas of student rights and teacher rights and to gather demographic and behavioral information. Sixty-five percent of the respondents scored ( $M= 58.71$ ,  $SD= 11.23$ ) correct on the student rights section, which was lower than the established cut score of 70%. Disaggregating the data revealed that secondary school leaders demonstrated a higher level of mastery on student rights, ( $M=65.27$ ); however, this was still below the established cut score. Comparatively, secondary school leaders ( $M=56.60$ ,  $SD=15.57$ ) demonstrated a lower level of mastery in teacher liability and rights.

## METHODOLOGY

Utilizing the *Alabama Principals' Legal Survey* (APLS) to collect demographic and professional information from principals in Alabama public school districts was needed to fulfill the purpose of the study. Specifically, to determine public school principals' self-perceptions of their knowledge of education law in the areas of compulsory attendance, discipline, due process, freedom of

expression (press and speech), religion, corporal punishment, search and seizure, and federal statutes.

Pilot studies are fundamentally important to the contribution of a high-quality study design (Ross, 2005). In particular, pilot studies are often times referred to as scaled down versions of a full-scale study to pre-test specific research instrumentation, such as questionnaire and surveys (Van Teijlingen & Hundley, 2002). To establish reliability, the researcher used Cronbach's Alpha to test for internal consistency of the *Alabama Principals' Legal Survey*. The reliability coefficient for the pilot test yielded an overall  $\alpha=.921$ , indicating an excellent degree of internal reliability (Sprinthal, 2009).

This information was used to identify their self-perceptions of their level of knowledge of court cases and federal and state statutes. Data were analyzed in two ways: descriptive statistics, and analyses of variance (ANOVA). The descriptive statistics was reported to provide a detailed description of the respondents that complete the survey. Also, a one-way ANOVA was employed to determine if there was a statistically significant difference in the mean self-ratings of the principals' knowledge of education law by the independent variables at the alpha level of .05. The independent variables were (a) form of training, and (b) their involvement in school litigation. Furthermore, the Cohen's  $d$  was analyzed to determine the practical significance, or the differences between the mean scores of the principals' knowledge of education law by the independent variables. Gliem and Gliem (2003) reported that the closer Cronbach's Alpha coefficient is to 1.0 the greater the internal consistency. Additionally, the reliability coefficients for the education law constructs were compulsory attendance  $\alpha=.687$ , religion  $\alpha=.662$ , discipline and due process  $\alpha=.717$ , freedom of expression  $\alpha=.844$ , corporal punishment  $\alpha=.753$ , search and seizure  $\alpha=.684$ , and federal statutes  $\alpha=.509$ .

To ascertain content validity of the *Alabama Principals' Legal Survey*, the instrument was submitted to a panel of three education law experts. For all intents and purposes Creswell (2012) described content validity as experts essentially verifying the operationalization against the relevant content for constructs in survey instruments. The three experts consisted of: (a) a private attorney that represents an Alabama school district, (b) a faculty member in Educational Leadership and Evaluation, who also served as a principal in Alabama for 11 years, and (c) a faculty member in Educational Leadership who served as a principal and superintendent for over 17 years. Due to the panels' expertise and experience in education law, the expert panel reviewed the instrument

to examine the clarity and content validity, providing input that improved the quality of the instrument.

## RESEARCH QUESTIONS AND FINDINGS

This study answered the following research questions:

### **Research Question 1: What are the self-perceptions of Alabama public school principals, by school level, about their knowledge of education law pertaining to student rights?**

The Alabama Principals' Legal Survey included 33 statements and court cases designed to measure principals' self-perceived knowledge in education law pertaining to students' rights related to compulsory attendance, discipline, due process, freedom of expression, religion, search and seizure, and federal statutes. A five-point Likert scale was used to determine principals' self-perceived knowledge in education law from *Strongly Agree* (5), *Agree* (4), *Undecided* (3), *Disagree* (2), and *Strongly Disagree* (1). The scaling technique used to interpret the mean self-ratings of Alabama principals was as follows: the range between 5 and 4.5 represents principals who self-perceive to be very knowledgeable in education law as it relates to students' rights; the range between 4.4 and 4.0 represents principals who self-perceive to have an adequate level of knowledge in education law as it relates to students' rights; the range between 3.9 and 3.5 represents principals whose perceptions of their knowledge in education law as it relates to students' rights is below average; and, any rating ranged below 3.4 represents principals who are self-perceived to have an inadequate level of knowledge in education law as it relates to students' rights. Based on the itemized mean scores, principals do not self-perceive to be very knowledgeable in education law as it relates to students' rights. Table 1 reveals the itemized Mean and Standard Deviations of the self-perceptions of Alabama public school principals about their knowledge of education law, by school Level.

### **Research Question 2: Are there statistically significant differences in principals' self-perceptions of their knowledge of student rights by most recent training?**

Eighty-one percent ( $n = 252$ ) of the principals identified professional development as their most recent form of training, while only 60 (19%) of the respondents

identified a college course as their most recent form of training method in which they gained knowledge about education law. The data revealed that seven (2%) of the respondents had not taken an education law course. Whereas, 85 (27%) revealed that they had only taken one law course. Additionally, there were 184 (59%) of the principals that acknowledged their school districts held professional development trainings on education law. Conversely, 128 (41%) revealed that their school districts do not hold professional development trainings on education law. Table 2 provides the data of frequencies and percentages of the education preparation of Alabama principals.

Table 3 exhibited the mean scores of principals by the type of training in which they most recently completed. Due to 80% ( $n=252$ ) of the principals selecting professional development. In each category of education law pertaining to students' rights related to compulsory attendance, discipline, due process, freedom of expression, religion, search and seizure, and federal statutes principal's mean scores were higher than college courses.

In determining if the principals' self-perceptions of their knowledge of student rights and most recent form of training to gain knowledge about education law are equal, the Levene's Test for Equality of Variance was performed to determine the variance for principals who most recent form of training was a college course or professional development (Table 4). The Levene's Test for Equality indicated there is no significant difference in the variance of scores of principals based on the form in education law components: (a) compulsory attendance ( $F=.30, p.58$ ), (b) freedom of expression ( $F=.70, p.40$ ), (c) corporal punishment ( $F=1.65, p.20$ ), (d) search and seizure ( $F=.15, p.69$ ), and (e) federal statutes ( $F=.10, p.74$ ). On the other hand, the Levene's Test for Equality indicated there is significant difference in the variance of scores of principals based on the form of training in education law components: (a) religion ( $F=6.09, p.01$ ), and (b) discipline and due process ( $F=4.10, p.044$ ). However, the mean scores between professional development and college courses in the education law components of religion and discipline/due process reflected a statistical significant difference in the variance of the scores. The results of the t-test for Equality of Means indicates there is a significance difference in the means between principals who most recent form of training to gain knowledge about education law was professional development and college courses at the .05 alpha level. (a) compulsory attendance  $t(310) = -1.99, p = .47$ ; (b) religion  $t(310) = -.90, p = .37, p = -.11$ ; (c) discipline and due process  $t(310) = -1.99, p = .47$ ;

(d) freedom of expression  $t(310) = -1.99, p = .47$ ; (e) corporal punishment  $t(310) = -1.99, p = .47$ ; (f) search and seizure  $t(310) = -1.99, p = .47$ ; or (g) federal statutes  $t(310) = -1.99, p = .47$ .

## SUMMARY

It is noted that 167 (54%) of the respondents reported that they had been involved in some type of school litigation. Also, there were 252 (81%) principals who identified professional development as their most recent form of training, whereas only 60 (19%) of the principals identified taking a college course as their most recent form of training method in which they gained knowledge about education law. Importantly, 184 (59%) of the principals indicated that their school districts held professional development training on education law; conversely, there were 128 (42%) principals who revealed that their school districts do not hold any professional development training related to education law.

Based on the review of literature there is a continuing need for research in education law. School principals should have more knowledge about the law, and new educators who are currently in teacher training programs should be encouraged to be more literate in law. The legalities of students' rights will continue to plague the daily operations of educational entities; therefore, research should robustly seek to investigate preparation programs, the course content of education law courses, and the impact they have on principals' knowledge in education law. There is a need for research to remain consistent in increasing the legal knowledge of new and novice principals, and to provide recommendations to improve the delivery and pedagogical methods in preparation programs. Education law experts are of the same mind, concurring that it is important that school personnel are cognizant and proficient in education law (Militello, Schimmel, & Eberwein, 2009; Schimmel, Millitello, & Eckes, 2011). Davis and Williams (2004) pointed out that principals should have an expanded level of knowledge about education law, including a constitutional analysis of cases that focus on educational issues, and be attentive to the historical influence that education law has had on legal issues involving the students and schools.

## PRINCIPAL PREPARATION AND EDUCATION LAW

Most institutions with principal preparation programs are nationally accredited through the National Council for Accreditation of Teacher Education (NCATE). NCATE governs professional teacher and administrator education programs, and addresses education law at the graduate level (NCATE, 2008). According to the *Professional Standards for Accreditation of Teacher Preparation Programs*, candidates preparing to work in schools as teachers and other school professionals should have a thorough knowledge base of schools, and the capability to apply knowledge related to the social, historical, and philosophical foundations of education, professional ethics, law, and policy (2008). Researchers have acknowledged that the preparation needs of future principals are cited in the context of the "21 Performance Domains" developed by the National Policy Board for Educational Administration (NPBEA) and the Council of Chief State School Officers (CCSSO). Additionally, NPBEA reviewed the qualifications for principals that led the effort to develop an advanced set of standards for principals that are known as the Interstate School Leaders Licensure Consortium (ISLLC) (Council of Chief State School Officers, 2008, Lauder, 2000; Thomson 1993).

Principals are required to have specific qualifications and licenses prior to practicing (Buckner, 2002; Klinker, 2006; Ploghoft & Perkins, 1988; Taylor, 2010). State agencies join forces with universities and educator preparation programs and assume the role of gatekeepers, requiring prospective principals to demonstrate that they have had requisite coursework before they can be certified as school principals (Calabrese, 1991). Requirements usually include experience as a teacher and graduation from a state-accredited principal preparation program, with a qualifying score on a content knowledge licensure exam.

Prospective principals who are in an instructional leadership preparation program are prepared to actively participate in the politics, policy-making, and the use of the legal system to protect students' rights. Similarly, Sparkman (1990) asserted that the opportunity to gain legal knowledge is continuous; however, it is complicated to determine what school leaders need to know about education law, specifically, especially since this is fluid knowledge that changes over time. Sparkman suggested that administrators should have knowledge of: (a) the legal relationships involved in governance, such as that between school and state; (b) the legal basis for authority and limitations on its exercise; (c) the legal principles that guide administrator's actions; (d) the federal and

state laws that guide school operations; and (e) policies, rules and regulations of their school district.

According to Cantano and Stronge (2006), ISLLC developed the common core knowledge standards which school leaders are required to master in order to demonstrate school leader effectiveness. However, Lashway (2003) argued that standards alone are not enough to restructure education preparation programs. Moreover, in order to be the most effective, new standards should be redirected to content, delivery, and an assessment of knowledge. It is critical that all professional educators obtain knowledge of education law in their preparation for the essential exposure that will provide the foundation for students' rights in educational entities (McLoughlin et al., 1983; Reglin, 1990; Reglin, 1992, Zirkel, 2006).

As schools carry on being the institutions that parents look to for assistance to facilitate the education of their children, principals must have an extensive level of knowledge of education law. Due to other elements within society, including home, church, and community which appear to be reluctant to continue their historic roles, it is imperative for educators to maintain a knowledge base of the legalities of education law (DeMitchell, 2002). The legalities of students' rights will continue to plague the daily operations of public schools; therefore, preparation programs, the course content of education law courses, and the impact they have on principals' knowledge in education law practices should be evaluated. It is recommended that all colleges and universities that offer Instructional Leadership preparation programs at the undergraduate and graduate level and include at least one course in education law to prepare principals and new educators to work in a legal environment and have the knowledge to understand ethical and legal concerns educators face while responding to political, social, and legal environments while serving a diverse body of students.

## REFERENCES

- Alexander, K., & Alexander, M. D. (2012). *American public school law* (8<sup>th</sup> ed.). Belmont, CA: Wadsworth
- Bradband, S. S. (2003). *Virginia principals and school law* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3095423)
- Buckner, K. G. (2002). Principal, school. In *Encyclopedia of education*. Retrieved from <http://www.encyclopedia.com/doc/1G2-3403200498.html>
- Calabrese, R. L. (1991). Principal preparation: Ethical considerations for universities. *NASSP Bulletin*, 75(539), 31-36. doi:10.1177/019266359107553907
- Caldwell, M. T. (1986). *Virginia principals and school law* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 8718990)
- Catano, N., & Stronge, J. H. (2006). What are principals expected to do? Congruence between principal evaluation and performance standards. *NASSP Bulletin*, 90(3), 221-237. doi:10.1177/0192636506292211
- Clark, T. R. (1990). *Mississippi superintendents' and secondary educators' knowledge of school law as it relates to student rights in selected areas*. (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI NO. 9106562)
- Creswell, J. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed). Upper Saddle River, NJ: Pearson, Inc.
- Darling-Hammond, L. (2006). Constructing 21st – century teacher education. *Journal of Teacher Education*, 57(3), 300-314. doi:10.1177/0022487105285962
- Darling-Hammond, L. (2010). Teacher education and the American future. *Journal of Teacher Education*, 61(1-2), 35-47. doi:10.1177/0022487109348024
- Davis, S., Darling-Hammond, L., Meyerson, D., & LaPointe, M. (2005). *Review of research. School leadership study. Developing successful principals*. Palo Alto, CA: Stanford Educational Leadership Institute.
- Davis, B., & Williams, J. (1992). *Integrating legal issues into teacher preparation programs*. Retrieved from ERIC database. (ED347139)
- DeMitchell, T. A. (2002). The duty to protect: Blackstone's doctrine of in loco parentis: A lens for viewing the sexual abuse of students. *Brigham Young University Education and Law Journal*, 2002(1), 17-52.
- Dillion, N. (2009). Hiring an attorney? *American School Board Journal*, 196(2), 22-25.
- Doverspike, D. E., & Cone, H. W. (1992). *The principal and the law: Elementary principal Series No. 7*. Bloomington, IN: Phi Delta Kappa Education Foundation.
- Dunklee, D., & Shoop, R. (1986). Teacher preparation in a litigious society: Implications in times of reform. *Journal of Teacher Education*, 37(5), 57-60. doi:10.1177/002248718603700511
- Eberwein, H. J. (2008). *Raising legal literacy in public schools, a call for principal leadership: A national study of secondary principals' knowledge of public school law* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3325154)
- Farkas, S., Johnson, J., Duffett, A., & Foleno, T. (2001). *Trying to stay ahead of the game: Superintendents and principals talk about school leadership*. Washington, D.C.: Public Agenda. Retrieved from ERIC database. (ED470932)
- Frels, K. (2000). Balancing students' rights and school responsibility. *Houston Law Review*, 37, 117-123.
- Gullatt, D. E., & Tollett, J. R. (1997). Educational law: a requisite course for preservice and inservice teacher education programs. *Journal*

- of *Teacher Education*, 48(2), 129-135. doi:10.1177/0022487197048002006
- Heubert, J. (1997). The more we get together: Improving collaboration between educators and their lawyers. *Harvard Educational Review*, 67(3), 531-582.
- Hutton, T. (2009). Need to know: Legal literacy in school districts. *Leadership Insider Practical Perspectives on School Law & Policy*. Retrieved from <http://www.nsba.org/Board-Leadership/Governance/Policies/Newsletters/Insider-May-09.pdf>
- Imber, M., & Gayler, D. E. (1988). A statistical analysis of trends in education-related litigation since 1960. *Educational Administration Quarterly*, 24(1), 55-78. doi:10.1177/0013161X88024001005
- Klinker, J. F. (2006). Principalship. In F. W. English (Ed.), *Encyclopedia of educational leadership and administration* (Vol. 2, pp. 797-802). Thousand Oaks, CA: Sage Publications.
- LaMorte, M. W. (2012). *School law: Cases and concepts* (10th ed.). New York: Pearson Education, Inc.
- Lashway, L. (2003). *Transforming principal preparation*. U.S. Department of Education, Office of Educational Research and Improvement. Retrieved from ERIC database. (ED473360)
- Lauder, A. (2000). The new look in principal preparation programs. *NASSP Bulletin*, 84(617), 23-27.
- Levine, A. (2005). *Educating school leaders*. Washington, DC: The Education Schools Project.
- Littleton, M. (2008). Teachers' knowledge of education law. *Action in Teacher Education*, 30(2), 71-78.
- Littleton, M., Higham, R., & Styron, K. (2001, November). *Analysis of legal knowledge of school officials in Texas*. Paper presented at the 47th Annual Meeting of the Education Law Association, in Albuquerque, NM.
- Maranzano, C. (2001). The legal implications of school resource officers in public schools. *NASSP Bulletin*, 85(621), 76-80. doi:10.1177/019263650108562110
- Martin, E. R. (1983). The law and teacher education: A selected review of recent literature. *Journal of Teacher Education*, 34(2), 59-60. doi:10.1177/002248718303400214
- McLoughlin, C. S., Sametz, L., & Streib, V. L. (1983). Prospective educators' knowledge of children's legal rights. *American Educational Research Journal*, 20(4), 591-600. doi:10.3102/00028312020004591
- Militello, M., Schimmel, D., & Eberwein, H. J. (2009). If they knew, they would change: How legal knowledge impacts principals' practice. *NASSP Bulletin*, 93(1), 27-52. doi:10.1177/0192636509332691
- Mumford, M. D., Zaccaro, S. J., Harding, F. D., Jacobs, T. O., Fleishman, E. A. (2000). Leadership skills for a changing world: Solving complex social problems. *Leadership Quarterly*, 11(1), 11-35.
- National Council for Accreditation of Teacher Education (NCATE). (2008). *Professional standards for the accreditation of teacher preparation institutions*. Washington, DC: Author.
- Northhouse, P. G. (2013). *Leadership theory and practice* (6th ed.). Thousand Oaks, CA: Sage Publications.
- Osburn, C. E. (1990). *Principals' knowledge of South Dakota school law* Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 9029773)
- Peel, H. A., Wallace, C., Buckner, K. G., Wrenn, S. L., & Evans, R. (1998). Improving leadership preparation programs through a school, university, and professional organization partnership. *NASSP Bulletin*, 82(602), 26-34.
- Petzko, V. (2008). The perceptions of new principals regarding the knowledge and skills important to their initial success. *NASSP Bulletin*, 92(3), 224-250. doi:10.1177/0192636508322824
- Ploghoft, M. E., & Perkins, C. G. (1988). Instructional leadership: Is the principal prepared? *NASSP Bulletin*, 72(510), 23-27. doi:10.1177/019263658807251004
- Portin, B. (2004). The roles that principals play.

- Educational Leadership*, 61(7), 14-18.
- Reglin, G. L. (1990). Worried about litigation? Test your knowledge of school law. *The Executive Educator*, 12(3), 21-22. Reglin, G. L. (1992). Public schools educators' knowledge of selected Supreme Court decisions affecting daily public school operations. *Journal of Educational Administration*, 30(2), 26-30. doi:0.1108/09578239210014450
- Ross, K. N. (2005). Educational research: Some basic concepts and terminology. *International Institute for Educational Planning*. Retrieved from [www.unesco.org/iiep/PDF/TR\\_Mods/Qu\\_Mod1.pdf](http://www.unesco.org/iiep/PDF/TR_Mods/Qu_Mod1.pdf)
- Russo, C. J. (2005). The educational rights of parents and students: An American perspective. *R. CEJ Brasilia*, 9(31), 43-52.
- Schmidt, L. (2006). Knowledge is power. *Principal Leadership*, 9(4), 22-25.
- Schimmel, D., & Militello, M. (2007). Legal literacy for teachers: A neglected responsibility. *Harvard Educational Review*, 77(3), 257-284.
- Schimmel, D., & Millitello, M. (2009). The dangers of not knowing: Why your teachers should be legally literate. *Leadership Insider Practical Perspectives on School Law & Policy*. Retrieved from <http://www.nsba.org/Board-Leadership/Governance/Policies/Newsletters/Insider-May-09.pdf>
- Schimmel, D., Millitello, M., & Eckes, S. (2011). Principals: An antidote to educational malpractice. *Education Week*, 30(33), 24-25.
- Schlosser, R. (2006). *An analysis of principal interns' legal knowledge and legal instruction in principal preparation programs* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3233261)
- Singletary, I. R. (1996). *South Carolina superintendents' and secondary educators' knowledge of school law as it relates to selected areas of student rights* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 9806690)
- Sparkman, W. E. (1990). Schools and law: A basic foundation for administrations. *NASSP Bulletin*, 74(529), 59-64. doi:10.1177/019263659007452911
- Sprinthall, R. C. (2009). *SPSS from A to Z: A brief step-by-step manual for psychology sociology, and criminal justice*. Boston, MA: Pearson Education, Inc.
- Stover, D., & Cook, G. (2009). The legal list: Top 10 issues. *American School Board Journal*, 196(2), 12-21.
- Taylor, K. R. (2001a). What about legal literacy. *Principal Leadership*, 2(2), 66-70.
- Taylor, K. R. (2001b). Yesterday's principal, today's legal eagle. *Principal Leadership*, 1(6), 75-78.
- Taylor, K. R. (2010). Back to basics. *Principal Leadership*, 9(7), 56-59.
- Thomson, S. D. (1993). *Principals for our changing schools: Knowledge and skill base*. National Policy Board for Educational Administration. Fairfax, VA.: Retrieved from ERIC database. (ED354601)
- Underwood, J., & Noffke, J. (1990). Good news: The litigation scales are tipping in your favor. *Executive Educator*, 12(3), 16-20.
- Van Teijlingen, E., & Hundle, V. (2002). The importance of pilot studies. *Nurs Stand*, 16(40), 33-36.
- Zirkel, P. A., & Reichner, H. E. (1997). Is in loco parentis dead? *Phi Delta Kappan*, 68(2), 466-469.
- Zirkel, P. A., & Richardson, S. N. (1989). The "explosion" in education litigation. *West's Education Law Reporter*, 53(3), 767-791
- Zirkel, P. A. (2006a). Paralyzing fear? Avoiding distorted assessments of the effect of law on education. *Journal of Law & Education*, 35(4), 461-495.
- Zirkel, P. A. (2006b). Trends in law. In F. W. English (Ed.), *Encyclopedia of educational leadership and administration* (Vol. 2, p. 560). Thousand Oaks, CA: Sage Publications.

**TABLE 1:** Itemized Mean and Standard Deviations of Self-Perceptions of Alabama Public School Principals about Their Knowledge of Education Law, by School Level

Education Law Component	Elementary n = 140		Middle n = 56		High n = 69		Other n = 47	
	M	SD	M	SD	M	SD	M	SD
<b>Compulsory Attendance</b>								
The <i>in loco parentis</i> standard	4.09	.928	4.14	.943	4.23	.750	4.00	.919
The Compulsory Education Act of 1922	3.67	1.14	3.52	1.04	3.77	.987	3.80	.141
Alabama Compulsory Education Law (1927)	3.61	1.09	3.57	.142	3.96	.930	3.76	.822
<i>Pierce v. Society of Sisters</i> (1925)	2.73	1.00	3.09	1.21	3.12	1.06	2.96	1.07
Alabama Age of Children Required to Attend School	4.27	.973	4.27	.963	4.42	.736	4.28	.834
<b>Religion</b>								
The First Amendment Free Exercise Clause	4.06	.867	4.30	.851	4.20	.655	4.22	.892
The Establishment Clause	3.66	.964	3.91	.978	4.06	.856	4.02	.856
Alabama Student-Initiated Voluntary Prayer Statute	4.01	1.05	4.29	.847	4.28	.705	4.15	.816
Bible reading in public schools	3.96	1.08	4.29	.899	4.00	.955	4.04	1.03
Prayer in public schools	4.12	.933	4.43	.783	4.16	.901	4.09	.962
<b>Discipline and Due Process</b>								
The Fifth Amendment	4.01	.978	4.20	.980	4.12	.832	4.02	.931
The Due Process Clause of the Fourteenth Amendment	4.05	.992	4.29	.825	4.16	.760	4.02	.830
<i>Goss v. Lopez</i> , (1975)	3.23	1.10	3.45	1.17	3.42	.976	3.57	.981
Student due process rights	4.19	.905	4.38	.799	4.26	.721	4.15	.842
Student discipline, expulsion, and suspension	4.33	.835	4.39	.846	4.39	.669	4.20	.806
<b>Freedom of Expression</b>								
The First Amendment	4.22	.796	4.34	.815	4.29	.644	4.24	.794
The Fourteenth Amendment	3.99	.960	4.29	.825	4.22	.745	4.11	.849
Freedom of speech protections for students	3.98	.893	4.27	.774	4.13	.839	4.00	.843
Alabama Freedoms of Speech and Expression Statute	3.67	.985	3.95	.999	4.04	.848	3.96	.868
<i>Tinker v. Des Moines School District</i> (1969)	3.50	1.08	3.68	1.16	3.87	.922	3.80	1.025
<b>Corporal Punishment</b>								
Consent to spank students	4.05	1.06	4.21	.948	4.13	.803	4.00	1.01
Alabama school districts corporal punishment and discipline policies	4.08	1.03	4.21	.929	4.13	.873	4.04	1.07
Alabama Local School Boards to Adopt Code for Conduct and Discipline of Students	4.13	.943	4.18	1.08	4.26	.656	4.13	1.02
The Eighth Amendment	3.59	1.01	3.79	1.02	3.84	.949	3.78	1.00
<i>Ingraham v. Wright</i> (1977)	3.12	1.04	3.20	1.19	3.25	1.00	3.48	1.15
<b>Search and Seizure</b>								
Searching students' lockers, pockets, or purses	4.28	.849	4.38	.799	4.36	.593	4.24	.874
Strip search of students'	3.61	1.35	3.89	1.17	3.86	1.15	3.33	1.33
Random drug test of students'	3.95	1.06	4.16	.987	4.28	.802	4.15	.894
Reasonable and probable cause	4.17	.905	4.38	.799	4.35	.614	4.20	.833
<i>New Jersey v. T. L. O.</i> (1985)	3.28	1.13	3.46	1.22	3.75	1.00	3.41	1.12
<b>Federal Statutes</b>								
Family Educational Rights and Privacy Act	4.28	.832	4.32	.765	4.10	.894	4.24	.848
Title IX of the Education Amendment of 1972	4.03	.967	4.29	.868	4.20	.719	4.22	.786
Title VII of the Civil Rights Act of 1964	3.91	.959	4.21	.780	4.06	.784	4.02	1.00

**Table 2 : Frequencies and Percentages of the Education Preparation of Alabama Principals (n=312)**

Variable	f	%
Most recent mode of training to gain education law knowledge		
College Course	60	19.2
Professional Development	252	80.8
Education law courses taken		
None	7	2.2
1	85	27.2
2	135	43.3
3	56	17.9
4	14	4.5
>4	15	4.8
Recent education law preparation in higher education		
0-2 years	56	17.9
3-5 years	78	25.0
6-9 years	88	28.2
>10 years	90	28.8
Professional development trainings on education law		
Yes	184	59.0
No	128	41.0

**Table 3: Descriptive Statistics of Self-Perceptions of Alabama Public School Principals about Their Knowledge of Education Law, by Form of Training (n=312)**

Education Law Component	Most recent form of training to gain knowledge about education law.	n	M	SD
Compulsory Attendance	College Course	60	3.57	.68
	Professional Development	252	<b>3.78</b>	.74
Religion	College Course	60	3.98	.88
	Professional Development	252	<b>4.09</b>	.72
Discipline Due Process	College Course	60	3.86	.85
	Professional Development	252	<b>4.05</b>	.72
Freedom of Expression	College Course	60	3.92	.80
	Professional Development	252	<b>4.00</b>	.74
Corporal Punishment	College Course	60	3.80	.86
	Professional Development	252	<b>3.86</b>	.76
Search Seizure	College Course	60	3.81	.72
	Professional Development	252	<b>3.98</b>	.75
Federal Statues	College Course	60	3.98	.79
	Professional Development	252	<b>4.17</b>	.77

Note. Mean ratings were obtained by assigning values of *Strongly Agree* (SA) =5, *Agree* (A) =4, *Undecided* (U) =3, *Disagree* (D) =2, and *Strongly Disagree* (SD) =1. M = the composite mean rating for the dependent variable. SD=composite standard deviation. **Bold** represents the highest mean rating in the education law component

**Table 4 :** *Independent T-Test of Self-Perceptions of Alabama Public School Principals about Their Knowledge of Education Law, by Form of Training (n=312)*

F		Levene's Test for Equality of Variances		t-test for Equality of Means			
		Sig.	t	df	Sig. (2-tailed)	Mean Difference	
Compulsory Attendance	Equal variances assumed	.300	.584	-1.998	310	.047	-.21
Religion	Equal variances not assumed	6.097	.014	-.900	79.05	.371	-.11
Discipline Due Process	Equal variances not assumed	4.109	.044	-1.613	80.46	.111	-.19
Freedom of Expression	Equal variances assumed	.706	.401	-.697	310	.486	-.07
Corporal Punishment	Equal variances assumed	1.615	.205	-.591	310	.555	-.06
Search Seizure	Equal variances assumed	.156	.693	-1.586	310	.114	-.17
Federal Statues	Equal variances assumed	.108	.743	-1.739	310	.083	-.19

# Teachers' explanations for challenging behavior in the classroom: What do teachers know about Functional Behavior Assessment?

Andria Young

Rachel Martinez

**Abstract:** How teachers answer the question of why challenging behavior is occurring in the classroom, will influence how they address that behavior. Teachers with knowledge of principles of applied behavior analysis, namely functional behavior assessment (FBA) are better equipped to address challenging behavior than those who attribute behavior to conditions beyond the classroom environment, such as poor parenting, student personality or disability. Teachers were surveyed to determine their knowledge of functional behavior assessment, function based interventions and basic principles of reinforcement. They were also surveyed to determine how they explain challenging behavior in the classroom. Results show teachers surveyed rely on a variety of explanations for challenging behavior; had limited experience and training related to principles of applied behavior analysis and FBA; and they hold some misconceptions about basic principles of behavior. The implications for classroom management and teacher preparation are discussed.

*About the Authors:* Dr. Andria Young is an Associate Professor of Special Education at the University of Houston – Victoria. Dr. Rachel Martinez is an Associate Professor of Special Education at the University of Houston – Victoria.

**Keywords:** functional behavior assessment, function based intervention, reinforcement, applied behavior analysis, teacher preparation

## INTRODUCTION

When faced with challenging behavior in any classroom, whether it be in a general education or special education classroom, teachers must be able to intervene in an efficient and effective manner so minor challenging behaviors do not escalate and interfere with daily instructional time. For the purposes of this paper, challenging behaviors are defined as those that are typically seen in the classroom and that interfere with instructional time and student learning, not those that pose a threat to safety in the classroom. Examples of challenging behavior may include off task behavior, noncompliance and talking out in class. To effectively intervene teachers have to have an understanding of the behavior and why it occurs. Many who try to answer the question of why behavior occurs may answer with explanations that are based on their beliefs about a student's personality, disability, home life, parents ability to parent or past trauma (Alberto and Troutman, 2009; Chandler and Dahlquist, 2010). For example, the authors

often hear from in-service teachers who are students in their classes, that challenging behavior occurs in their classroom because of how the parents are parenting their child or because the student has a disability, or the student is lazy. These explanations keep the teachers from engaging in any systematic behavior assessment and intervention since they attribute the causes of the behavior to be either outside the classroom context or inherent to the student and thus beyond the teachers' control. These explanations of behaviors may also result in challenging behavior being reinforced. For example, a student who consistently acts out during math class may be sent to the principal each time because the teacher attributes the behavior to the student's personality, he is thought of as a "difficult child." Consequently, the student who is trying to avoid math by engaging in some form of challenging behavior is reinforced because he gets to avoid math when in the principal's office. The teacher's assumption can be especially harmful if the

student struggles in math and as a result of being sent out, he does not get the help in math he needs.

Teachers who try to understand why challenging classroom behavior occurs by applying explanations associated with principles of applied behavior analysis (ABA) are better equipped to intervene with challenging behavior in the context of the school setting. When dealing with challenging behavior, teachers with a background in ABA, will first assess the behavior using techniques of functional behavior assessment (FBA). FBA consists of a variety of behavior assessment procedures and is characterized by the systematic processes of identifying and defining challenging behavior; determining the antecedents that predict the behavior; and, determining the consequences that reinforce behavior. After information is gathered one is able to analyze the antecedents and consequences surrounding the behavior, find patterns and predict under what conditions the behavior will most likely occur. Next, a hypothesis about the function or reason for the behavior is developed. Functions of behavior may include access to positive reinforcement in the form of attention, activities, tangibles or sensory stimulation; and access to negative reinforcement in the form of escape or avoidance from task demands or other stimuli in the environment students find aversive. Based on the hypothesis a function based intervention is developed. This will typically include reinforcement for a replacement behavior and modifications to the antecedents and consequences of the challenging behavior (Carr, 1994; Horner, 1994; O'Neill, Horner, Albin, Sprague, Stoney and Newton, 1997; Umbreit, Ferro, Liaupsin and Lane, 2007).

When a student is experiencing academic challenges, teachers assess the student to determine where the specific problem lies and then creates academic interventions based on the academic assessment. Behavior challenges should be no different. Teachers who first assess the behavior in order to develop an intervention for the behavior are much more successful at changing the behavior than those who do not (Stoiber and Gettinger, 2011). Research indicates that when FBA is used in the schools positive behavior change is the result (Scott, Alter, and McQuillan, 2010). The research literature also indicates that when teachers do use FBA they report FBA and function based interventions to be effective practices in their classroom (Christiansen, Renshaw, Caldarella, and Young, 2012; Maag and Larson, 2006; Renshaw, Christiansen, Marchant, and Anderson 2008). Teachers who use FBA to create function based interventions are able to take a proactive approach to minor behavior problems before they escalate into larger challenges that continue to interfere with instructional time. For

example, a teacher may struggle all year prompting a student with ADHD to get on task during spelling activity time. She may have attributed the behavior to the diagnosis and mistakenly determined all she could do was prompt to return to task. Had she completed an FBA and determined that the off task behavior served to allow the student to escape an unpleasant task, she would have found that offering the student a choice of tasks would reduce the off task behavior. This would be the difference between an intervention based on the results of an FBA and one based on explanations of behavior beyond the current context and environmental contingencies. The teacher who attributes the cause of behavior to ADHD may spend the whole school year prompting the child, whereas the teacher who attributes the behavior to contexts, antecedents and consequences found in the classroom, will create a function based intervention and thus have more instructional time since she is no longer constantly prompting.

The use of FBA and function based interventions in the classroom by teachers acting independently of consultants is not widespread. Overall it has been suggested by researchers that teachers do not have the time to effectively use FBA while also attending to their other responsibilities in the classroom, especially if the teacher does not have an instructional aide or additional staff support in the classroom (Ellingson, Miltenberger, Stricker, Galensky and Garlinghouse, 2000; Kamps, Wedland and Culpepper, 2006; Scott, Bucalos, Liaupsin, Nelson, Jolivette and DeShea, 2004). An alternative explanation may be that teachers are not using FBA in the classroom because they have not had the training or experience with it to use it effectively and efficiently given their other classroom responsibilities (Scott, Alter, and McQuillan, 2010). Myers and Holland (2000) queried teachers about their knowledge of functional behavior assessment and found that 75% of the special education teachers asked had heard of FBA but only 42% of those had specific training in how to utilize FBA. Only 17% of general education teachers queried had heard of FBA and of those only 12% had specific training in FBA. Stromont, Reinke and Herman (2011) found that of 239 early childhood and elementary teachers questioned more than half were not sure whether their school provided functional behavior assessment and intervention planning. Instead of relying on FBA and function based intervention, teachers may be relying on their personal beliefs and explanations about behavior. When Skinner and Hales (1992) queried teachers about their explanations for behavior, they found that the majority of preservice and inservice teachers, prior to a class on behavior management, held beliefs that challenging behavior was the result of the developmental

stage a student was in or that behavior had an underlying emotional cause.

The purpose of the present study is to add to the body of research regarding teachers' explanations for behavior, and knowledge of functional behavior assessment. The authors suggest that teachers may not typically be using FBA as a classroom management tool because they do not have the knowledge and skills to use it effectively. Instead they are relying on their beliefs about behavior to guide how they intervene. The research shows that when teachers are provided instruction and practice in applying the FBA techniques they use it effectively and find FBA to be a useful tool to create function based interventions (Christiansen, Renshaw, Caldarella, and Young, 2012; Maag and Larson, 2006; Renshaw, Christiansen, Marchant, and Anderson 2008). For this study teachers were queried to determine how they explain behavior challenges that occur in their classroom and they were also asked about what they knew about functional behavior assessment; principles of reinforcement and, what if any, instruction they had as pre-service teachers regarding functional behavior assessment.

## METHOD

### *Participants*

Students taking a Massive Open Online Course (MOOC) participated in the study. A survey was developed to assess students' explanations for behavior and knowledge prior to taking the course. The MOOC was offered through Coursera and was a four week course titled "Applying Principles of Behavior in the K12 Classroom." The course was offered once in the spring and once in the summer and students in both offerings were asked to complete the survey. The course was designed to provide students an introduction to basic principles of applied behavior analysis, including principles of positive and negative reinforcement; how to identify and define challenging behavior; and, how to conduct a direct functional behavior assessment and develop a function based intervention. The course was free and students were able to accumulate 12 continuing professional education hours upon successful completion of the course. The course was advertised through Coursera and by the instructor to the local school districts in South Texas. When students registered for the course and before the course began, they were sent a link to the survey in an email and were asked to complete the survey. The students received a second email the day the course began with the link to the survey. The students in the course had not completed course assignments prior

to taking the survey.

Approximately 1400 of nearly 10,000 students who initially enrolled in the two offerings of the MOOC responded to the majority of the survey. It should be noted that in both offerings only approximately 500 students completed all of the requirements of the MOOC and received their certificate of completion. The survey results were filtered so only those students who indicated they were either a general education teacher or a special education in a K12 setting were included in the analysis. Consequently, the total number of respondents was 757. Of those respondents 30% were from the United States and 70% were international students. International students represented countries in North, Central and South America, the Caribbean, the Middle East, Europe, Asia and the South Pacific. Thirty percent of the respondents had three or fewer years of experience teaching; 29% had between four and eight years of experience teaching; 18% had between nine and thirteen years of experience teaching; and 23% had over 14 years of experience teaching. Eighty five percent of the students indicated they were general education teachers and 15% indicated they were special education teachers.

### *Survey*

The survey was developed using Survey Monkey (<http://www.surveymonkey.com>), an online survey tool. The survey consisted of questions related to teacher's beliefs about the causes of challenging behavior in the classroom. These beliefs were derived from Alberto and Troutman (2009) and Chandler and Dahlquist (2010) and the current authors' own experiences. For the first part of the survey respondents were given the following statement: "*When a child in my classroom is consistently exhibiting challenging behavior I believe the behavior is the result of:*" Challenging behavior was defined as any behavior that occurs repeatedly (daily) and that interferes with teacher instructional time and student academic work time. The respondents utilized a four point Likert scale which ranged from strongly agree to strongly disagree to indicate their level of agreement with the explanation choice. The explanations for challenging behavior were divided into those that were outside the realm of the teachers' ability to control such as poor parenting, past trauma, home situation, disability and personality. The explanations were further divided into those the teacher did have control over such as events in the classroom that trigger behavior, reinforcement for the challenging behavior and teaching practices. The survey also consisted of questions related to teachers' understanding of basic principles of reinforcement and

punishment and functional behavior assessment. This part of the survey was set up for respondents to indicate whether a statement was true or false. Respondents were also given the option to indicate they did not know. The following is an example of a statement found in this section of the survey: *“Punishment is another word for negative reinforcement.”* Finally, respondents were also asked about whether they had preservice instruction or training related to FBA.

## RESULTS

Teachers were initially asked about how they explain behavior when faced with a child who is consistently engaging in challenging behavior in the classroom. The results show that 76% of the teachers agreed that challenging behavior could be the result of poor parenting and 77% agreed that past trauma could explain challenging behavior in the classroom. Eighty seven percent agreed that a bad home situation could explain challenging behavior in the classroom. Personality and disability are possible explanations for behavior that are inherent to the student and thus not under the control of the teacher. Sixty eight percent of the teachers agreed that a student’s personality is viable explanation for challenging behavior, and 59% indicated that the student’s disability could cause challenging behavior. See Table 1.

For those reasons under a teacher’s control, 87% of the respondents agreed that events in the classroom that trigger behavior could be an explanation for challenging behavior. Eighty four percent of the respondents agreed that reinforcement that maintains behavior in the classroom is an explanation for challenging behavior. Finally, 80% agreed that teaching practices may cause challenging behavior in the classroom. Interestingly, 20% of the respondents disagreed that teaching practices could be the cause of challenging behavior. See Table 1.

When asked to respond to true or false questions about basic concepts of reinforcement it was found that many of the teachers had some misconceptions. Twenty percent of the respondents believed that reinforcement for behavior expected in the classroom is a form of bribery and 50% believed that punishment and negative reinforcement are the same concept. Additionally 28% of the respondents believed that it is unfair to other students when one student is on a behavior plan and receives reinforcement as the result of the plan. Only twenty percent of the respondents indicated they were familiar with the term functional behavior assessment. Ninety two percent indicated they had never learned about functional behavior assessment. Not surprisingly, 87% of the respondents indicated they did not use FBA to develop function based interventions in their classroom. Finally, when asked whether they learned about FBA in their teacher preparation program 85% indicated they had not. See Table 2.

**Table 1:** *Teachers’ explanations for challenging behavior*

When a child in my classroom is consistently exhibiting challenging behavior I believe the behavior is the result of:	Strongly Agree	Agree	Disagree	Strongly Disagree
Poor parenting	14%	62%	21%	3%
Past trauma	11%	66%	21%	2%
Bad home situation	17%	70%	12%	1%
The student’s personality	10%	58%	28%	4%
The student’s disability	5%	54%	31%	10%
Events in the classroom that trigger the behavior	18%	69%	12%	1%
Reinforcement in the classroom that maintains the behavior	19%	65%	14%	2%
Teaching practices	14%	66%	17%	3%

**Table 2:** Teachers' responses to questions about concepts and training related to FBA and principles of reinforcement and punishment.

	True	False	Don't Know
Reinforcing students for positive behavior such as following rules, completing assignments etc. is a form of bribery	20%	74%	6%
Punishment is another word for negative reinforcement	50%	40%	10%
If only one student in a classroom is on a behavior intervention plan and gets reinforcement it is not fair to other students	28%	57%	15%
I am familiar with functional behavior assessment	20%	80%	
I use FBA to develop function based interventions in my classroom as needed.	13%	87%	
I learned about functional behavior assessment through my teacher preparation program	15%	85%	

## DISCUSSION

Similar to Skinner and Hales (1992) who found that teachers believed that challenging behavior is the result of the student's developmental stage or that behavior has an emotional cause, the teachers queried for this study also attributed the cause of challenging behavior to reasons beyond the control of the teacher. Poor parenting, past trauma, bad home situation, student's personality and student's disability were all explanations for challenging behavior in the classroom. The teacher's explanations are of concern because teachers who attribute behavior to events or situations outside the classroom may perceive behavior to be beyond their ability to change. One of the respondents commented that inherited behavioral issues such as ADHD, OCD or bipolar disorder are reasons for behavior. Others commented that lack of prescribed medication, poor moral background, weak system of values and laziness are explanations for challenging behavior. When teachers take these positions regarding behavior they leave very few options for changing the behavior. If a student's behavior can be attributed to not having taken medication then the teacher can do nothing but standby and wait for the parent to administer the medication as prescribed. If a teacher believes a student's behavior is the result of a diagnosis such as ADHD or bipolar disorder then a teacher can only rely on medical doctors to address the associated behavioral issues.

Teachers who have an understanding of principles of applied behavior analysis and FBA understand that even though students may have experiences outside the classroom or they may have been diagnosed with an

emotional disturbance or ADHD, the behavior within the classroom is controlled by the antecedents and consequences within the context of the classroom. In this survey it was found that teachers also sometimes explain behavior according to antecedents and consequences in the classroom as well as teaching practices. Teachers who take this approach to explaining behavior may acknowledge that there are a variety of influences on a student's behavior but they also understand that while the student is in their classroom the behavior is being governed by the antecedents and consequences occurring in the classroom.

While a limited inference can be made, it is interesting that 20% of the respondents indicated that their teaching practices are not reasons they give for challenging behavior in the classroom. Teachers who have an understanding of functional behavior assessment, know that a functional behavior assessment will often reveal that the teacher must become part of the intervention and change his/her behavior in order to reduce the challenging behavior. For example, if a teacher does not provide timely feedback and reinforcement for student academic performance, students may stop performing academically at a level at which they are capable. A teacher who does not believe teaching practices can cause challenging behavior, does not change his/her own behavior and will struggle with challenging behavior all year.

a variety of misconceptions about principles related to applied behavior analysis. When teachers believe that reinforcement is a form of bribery or that it is unfair to other students when one student has a behavior

intervention plan for which he earns reinforcement, it indicates they do not understand the nature of reinforcement. Reinforcement is defined simply as a stimulus change following a behavior that results in the increased future likelihood of the behavior given similar circumstances (Cooper, Heron and Heward, 2007). Put simply, reinforcement can be something as straightforward as a student feeling good about completing an assignment or a kind word from the teacher following a desired behavior. Teachers who view reinforcement as a bribe for behavior, may not create classrooms with a rich variety of reinforcement to motivate their students. Additionally, 16% of the teachers indicated that reinforcement of the challenging behavior could not be a reason for the occurrence of the behavior. This finding further demonstrates that many teachers do not understand how behavior is reinforced. For example, teachers may not realize that their reprimand of a student for talking out can be reinforcing for those students who seek out any kind of teacher attention. The teacher may not see this as reinforcement because the teacher views the reprimand as 'negative' attention. Many teachers may only think of reinforcement as a special reward the student earns.

Almost half of the respondents indicated that negative reinforcement and punishment were synonymous. Teachers who do not understand the distinction between negative reinforcement and punishment may inadvertently reinforce students when they think they are punishing them. Punishment is defined as a stimulus change that immediately follows a behavior and decreases the future likelihood of behavior occurring again given similar circumstances. Negative reinforcement is defined as the reduction or termination of a stimulus following a behavior that will increase the future likelihood of the behavior under similar circumstances (Cooper et al., 2007). Consequently punishment is meant to reduce behavior and negative reinforcement maintains behavior. For example, if a student becomes disruptive whenever there is a writing assignment in class and the teacher sends the student out of the room, the teacher may think his action is punishing the student. However, if the student's disruptive behavior is maintained instead of reduced it is negatively reinforced because it allowed the student to terminate a stimulus (writing) he found aversive. A teacher who does not understand the differences between negative reinforcement and punishment will find that this student continues to engage in disruptive behavior whenever there is a writing assignment because the student's behavior is negatively reinforced, not punished.

The findings of this study were consistent with those of Myers and Holland (2000) as the majority of the

respondents were not familiar with the term functional behavior assessment. Most of the respondents also did not have experience completing a functional behavior assessment in order to develop a function based intervention and effectively intervene with behavior. The majority of the teachers indicated that they did not learn about FBA while they were in their teacher education programs. This finding is of concern because teachers who do not have knowledge of behavior assessment do not have a tool by which to assess and intervene with behavior. Additionally, teachers who are reacting to behavior without completing an FBA to create a function based intervention may inadvertently trigger and reinforce challenging behavior, the very behavior they are trying to reduce (O'Neill et al., 1997).

### *Recommendations*

There is no question, teachers whether they are general education or special education teachers, will have students who engage in challenging behaviors that interfere with instruction time, and these teachers must have the tools to effectively address the challenging behavior. There is a growing body of research demonstrating that teachers who receive professional development in FBA use it to assess behavior and create effective and efficient function based interventions (McCahill, Healy, Lydon, and Ramey, 2014; Stoiber and Gettinger, 2011). From the current findings however, it is apparent that many teachers are not being exposed to basic principles of applied behavior analysis and functional behavior assessment in their teacher preparation programs or in their school districts as part of professional development activities. Pre-service teachers would benefit from taking classes in their teacher preparation programs that cover basic behavior principles of applied behavior analysis including how to assess the function of behavior and create function based interventions. Those teachers already in-service would benefit from specific professional development related to principles of behavior, functional behavior assessment and function based intervention. These trainings could be delivered on-line in order to accommodate in-service teachers' busy schedules. Teachers who have the tools associated with FBA will be better equipped to observe behavior and efficiently identify antecedents that trigger behavior and consequences that maintain behavior than those who do not. These skills will allow them to develop effective interventions, taking a proactive approach to behavior before the behavior escalates and interferes with teacher instructional time and requires additional staff support, time and resources to change the behavior (Christiansen et al, 2012; Moreno and Bullock, 2011).

Finally, many special education and general education teachers have students in their classrooms whose behavior is such that they require a behavior specialist or behavior consultant to develop behavior intervention plans. The teachers will have to play a large role in collecting information for functional behavior assessments as well as implementing interventions and collecting data on the behavior. Behavioral specialists and behavioral consultants are more effective if teachers understand the basic principles of reinforcement and reasons behind functional behavior assessments. The behavior specialists do not have to convince teachers to buy into the process when teachers have the background knowledge, and behavior interventions are much more effective when the teacher who is responsible for implementing the intervention understands the rationale and concepts underlying the plan and plays a part in creating the plan (Christiansen et al, 2012; Skinner and Hales, 1992).

---

## REFERENCES

- Alberto, P. A., & Troutman, A. C. (2009). *Applied behavior analysis for teachers*. New Jersey: Pearson.
- Carr, E.G. (1994). Emerging themes in the functional analysis of problem behavior, *Journal of Applied Behavior Analysis*, 27, 393-399.
- Chandler, L.K. & Dahlquist, C. M. (2010). *Functional assessment: Strategies to prevent and remediate challenging behaviors in school settings*. (3<sup>rd</sup> Edition). New Jersey, Pearson.
- Christensen, L., Renshaw, T. L., Caldarella, P., & Young, J.R. (2012). Training a general educator to use function-based support for students at risk for behavior disorders, *Education*, 133(2), 313-335.
- Cooper, J.C., Heron, T. E. & Heward, W. L. (2007). *Applied behavior analysis*. (2<sup>nd</sup> Edition). New Jersey: Pearson.
- Ellingson, S.A., Miltenberger, R.G., Stricker, J., Galensky, T. L., & Garlinghouse, M. (2000). Functional assessment and intervention for challenging behaviors in the classroom by general classroom teachers. *Journal of Positive Behavior Interventions*, 2(2), 85-97.
- Horner, R. H. (1994). Functional assessment: Contributions and future directions. *Journal of Applied Behavior Analysis*, 27, 401-404.
- Kamps, D., Wendland, M., & Culpepper, M. (2006). Active teacher participation in functional behavior assessment for students with emotional and behavioral disorders risks in general education classrooms. *Behavioral Disorders*, 31(2), 128-146.
- Maag, J. W., & Larson, P. J. (2004). Training a general education teacher to apply functional assessment. *Education and Treatment of Children*, 27(1), 26-36.
- McCahill, J., Healy, O., Lyndon, S., & Ramey, D. (2014). Training educational staff in functional behavior assessment: A systematic review. *Journal of Developmental and Physical Disabilities*, 26, 479-505.
- Moreno, G., & Bullock, L. M. (2011). Principles of positive behavior supports: Using the FBA as a problem-solving approach to address challenging behaviors beyond special populations, *Emotional and Behavioral Difficulties*, 16(2), 117-127.
- Myers, C. L. & Holland, K. L. (2000). Classroom behavioral interventions: Do teachers consider the function of the behavior? *Psychology in the Schools*, 37(3), 271-280.
- O'Neill, R.E., Horner, R. H., Albin, R.W., Sprague, J. R., Storey, K., & Newton, J.S. (1997). *Functional assessment and program development for problem behavior*. California: Brooks/Cole.
- Renshaw, T.L., Christensen, L., Marchant, M., & Anderson, T. (2008). Training elementary school general educators to implement function-based support. *Education and Treatment of Children*, 31(4), 495-521.

- Scott, T. M., Bucalos, A., Liaupsin, C., Nelson, C.M., Jolivette, K., & DeShea, L. (2004). Using functional behavior assessment in general education settings: Making a case for effectiveness and efficiency. *Behavioral Disorders, 29*(2), 189-201.
- Scott, T. M., Alter, P.J., & McQuillan, K. (2010). Functional behavior assessment in classroom settings: Scaling down to scale up. *Intervention in School and Clinic, 46*(2), 87-94.
- Skinner, M.E., & Hales, M. R. (1992). Classroom teachers' explanations of student behavior: one possible barrier to the acceptance and use of applied behavior analysis procedures in the schools. *Journal of Educational and Psychological Consultation, 3*(3), 219-232.
- Stoiber, K.C. & Gettinger, M. (2011). Functional assessment and positive support strategies for promoting resilience: Effects on teachers and high-risk children. *Psychology in the Schools 48*(7), 686-706.
- Stormont, M., Reinke, W., & Herman, K. (2011). Teachers' knowledge of evidence-based interventions and available school resources for children with emotional and behavioral problems. *Journal of Behavioral Education, 20*, 138-147.
- Umbreit, J., Ferro, J., Liaupsin, C. J., & Lane, K. L. (2007). *Functional behavior assessment and function-based intervention*. New Jersey: Pearson.

# Changing Perceptions: Mississippi's Initiative to Bring the Best and Brightest to the Education Profession

Mary Ann Parker

**Abstract:** While standards for teaching in the United States are increasing, perceptions of the education profession are decreasing. The public is inundated with negative images of American education, and prestige for teaching is declining. At the same time, legislative changes to educational standards place unprecedented demands on teachers. The University of Mississippi and Mississippi State University are working together to recruit high achieving students to secondary English and secondary math education programs at both Mississippi colleges. The Mississippi Excellence in Teaching Program (METP) scholarship is a unique scholarship opportunity designed to bring high performing rising college freshmen to Schools of Education.

*About the author:* Mary Ann Parker is a Graduate Instructor and a secondary English doctoral candidate at the University of Mississippi.

**Keywords:** METP, secondary teacher education, perceptions

## INTRODUCTION

The role of today's educator demands quality professionals capable of meeting the tremendous requirements of the occupation. However, today's United States' teachers no longer have the high professional standing teachers once held (Paine & Schleicher, 2011). Once a prestigious field in the United States, many legislators, parents, and general public members no longer hold the public education profession in high esteem (Labaree, 1995, p. 46). As our global society places more emphasis on the need for quality education for all United States' students, it is critical to have quality educators in today's classrooms (Meyer, 2012, p. 56). However, overwhelming negative attention towards teachers and the overall K-12 educational system creates challenges to bringing the best and brightest into teacher education programs (Mehta, 2013, p.106).

At the same time negative public perceptions are challenging teachers, Bushaw and Lopez (2011) assert the public admits the need for high academic performers in educational positions. Their review of a June 2011 Phi Delta Kappa Gallup Poll surveying public attitudes toward public schools in the United States reported seventy-six percent of those surveyed are in favor of recruiting high-achieving students to education

(Bushaw & Lopez, 2011, p. 10). These results indicate public awareness of the need for high performing students in the educational field. However, Bushaw and Lopez (2011) further report in the same poll, respondents stated if the best and brightest person they knew approached them with aspirations of becoming a teacher, twenty-three percent replied they would suggest a different field to the person. Another two percent of respondents would discourage the person from entering education (Bushaw & Lopez, 2011, p. 10). Therefore, a conundrum exists: the public recognizes the importance of accomplished persons as educational professionals but are unwilling to support high achievers' pursuing of the field. Per Lankford, Loeb, McEachin, Miller, and Wyckoff (2014), "To raise teaching's occupational prestige, the general public's perception of teaching must increase relative to other professions" (p. 445).

Media and film education commentary also pervades the public. Sixty-eight percent of people responding to a 2012 Phi Delta Kappa Gallup Poll said they hear more bad stories concerning teachers in the news media than good stories (Bushaw & Lopez, 2012). Also, in the past few years, documentary films such as *Waiting for Superman* and *The Lottery* portraying public schools

in a negative light have gained popularity (Skoll & Weyernann, 2010; Sackler, Ashman, & Lawler, 2010). Such films highlight the public's concern over the performance of public schools in America. Bruhn (2011) states *Waiting for Superman* "was a direct attack on public schools, teachers, and their unions" (p.48). However, the public saw famous supporters such as Oprah Winfrey and President Obama praising the film, and the film's director even received Oscar buzz (Bruhn, 2011).

*The Lottery* shadows families in New York City vying for children a chance at enrollment in a charter school (Sackler, Ashman, & Lawler, 2010). Tate (2011) asserts, "The traditional public school represents a losing pick. The film thus implicitly but clearly defines the primary problems of public education as an inadequate provision of charter schooling, combined with a public school system that is rendered inefficient by a stifling bureaucracy and the self-serving demands of the teachers union" (p. 1).

Zhao (2012) maintains comparison of the United States' student scores on international assessments such as the Programme for International Student Assessment (PISA) and Trends in International Mathematics and Science Study (TIMSS) have also shed a negative light on teachers, noting "The relative standing of each nation on these assessments is automatically equated with the quality of education in each nation" (p. 33). Because the United States' scores are not among the top international performers, some perceive the U.S. A. has a lower educational quality than nations scoring the highest on the exams.

While the status of the education profession is declining, initiatives such as the No Child Left Behind Act of 2004 and the Common Core State Standards have raised requirements and expectations of teachers (Jennings & Retner, 2006). The combination of heightened teacher qualifications and dwindling teacher prestige presents barriers to persuading the highest performing students to pursue a career in education.

The No Child Left Behind Act of 2004 increased teacher qualification scrutiny and accountability (Jennings & Retner, 2006, p. 113; Achieve, 2012). Compounding the requirements of the No Child Left Behind Act are the Common Core State Standards (Commoncorestandards, n.d.). Zhao (2012) points out the Common Core State Standards were created with a focus on mimicking the international top scorers on the TIMSS and PISA in an effort to increase American students' assessment scores on international assessments (as cited in Common Core,

2009). The Common Core State Standards have called for shifts in current educational practices in the key areas of mathematics and language arts (Commoncorestandards, n.d.) Continuing implementation of the Common Core State Standards in today's classrooms will "require a deepening retraining of most of the teaching corps" (Achieve, 2012). Further, Meyer (2012) asserts that in-service teachers must be prepared to meet the rigorous demands of the new standards as well as reach 21<sup>st</sup> century adolescents who "face greater literacy demands than their predecessors" (pg. 56). Educators must be flexible, innovative, and knowledgeable in order to not only reach today's adolescent learner but help them meet heightened academic requirements.

With teaching standards increasing, it is imperative that schools attract and retain top quality teachers. In fact, analysis of successful international programs shows the difference in low performing schools versus top performing schools is top performing schools have faculty of teachers from the top one third of college graduates (Mehta, 2013). Examination of Finland and Singapore where education is a highly regarded profession illustrates teacher program entry as extremely selective (Paine & Schleicher, 2011). Singapore applicants have a slim one in eight chance of admission while Finland applicants have a one in ten chance of attending a teaching college (Tucker, 2011).

By broadening the pool of teacher education programs with high academic achievers, many areas of education may be bolstered. For example, increased public confidence in public education could lead to increased teacher salaries and higher student achievement. Mehta (2013) discusses the implications of drawing top students to the teaching profession:

These changes have the potential to remake the whole field: if it became harder to become a teacher, respect for the profession would grow, and schools might start to show better results. This process could boost public confidence in schools, potentially leading to higher teachers' pay and, in the long run, a greater desire by talented people to join the profession. (p. 106).

## A MISSISSIPPI INITIATIVE

Top educational professionals in Mississippi seeking to answer the question of how to elevate perceptions of public education have heeded the call to raise perceptions of education and the teaching profession in their state by enticing top academic performers to

enter educational programs. Dr. David Rock, Dean of the University of Mississippi School of Education, and Dr. Richard Blackburn, Dean of the Mississippi State University College of Education, charged faculty at both universities to determine ways to evolve teacher education programs to promote all areas of education in the state of Mississippi. The result of their joint effort is an unprecedented scholarship program entitled the Mississippi Excellence in Teaching Program.

Working together, education faculty members of the University of Mississippi (UM) and Mississippi State University (MSU) created ambitious guidelines for a new scholarship program targeting future secondary teachers in the Common Core State Standards highlighted areas of English and mathematics. Meeting both face to face and via Skype, the faculties strived to create not only high academic requirements for program consideration but also scholarship benefits that would serve to bring top graduating high school seniors a comprehensive scholarship opportunity, giving the schools of education a competitive recruiting edge. Their united endeavor resulted in creation of a program, “designed to create a unique ‘honors college style’ learning experience for high achieving education students and promote collaboration between students and faculty at both universities” (METP, 2013).

In December 2012 with clear program guidelines set forth, Dr. David Rock and Dr. Richard Blackburn sought funding for the newly developed scholarship. The Robert M. Hearin Support Foundation, a non-profit organization located in Jackson, Mississippi, showed their enthusiasm for the project by agreeing to fund the project via a \$12.95 million grant. In fact, foundation chairman Bob Hearin (2013) stated, “For years, our foundation has been focused on education as the best pathway to economic prosperity for Mississippi. We believe this program, which is focused on attracting the best and brightest to the profession of teaching, will help fulfill that idea. It is appealing to our board that the program is a joint effort between two of Mississippi’s leading universities» (Mississippi Institutions of Higher Learning, 2013).

## PROGRAM DESCRIPTION

Each university has the capacity to offer twenty placements per year: ten secondary English education students and ten secondary mathematics students. As freshmen, fellows receive scholarship benefits that include all tuition and book costs plus room and board

expenses. In addition, the students are provided a \$1000 technology stipend that allows students to purchase their choice of a laptop computer or tablet. Additionally, each semester fellows will travel to their counterpart institution to participate in joint professional development activities. The summer prior to their senior year, fellows from both universities will come together for a week to attend learning sessions concerning contemporary educational issues lead by joint MSU and UM faculty. Finally, students are able to attend a prestigious national conference in their field, either the National Council for Teachers of English or the National Council for Teachers of Mathematics. Fellows must agree to teach in Mississippi for a minimum of five years after program completion (METP, n.d.).

In addition to holding a minimum Grade Point Average of 3.5 and either an ACT composite score of 28 or SAT composite score of 1250, applicants must provide a personal statement and a 500-700 word essay describing why the applicant is passionate about teaching either secondary English or math. Also, applicants must have a minimum of two references. Finally, select applicants complete an interview with a panel of faculty before offers of fellowship are extended (METP, n.d.).

The ambitious vision of the University of Mississippi and Mississippi State University education leaders came to fruition with the 2013 METP cohort. The METP fellows began their studies on the UM and MSU campuses Fall 2013. Now in its third year, the METP continues attracting academically strong students from around the country (METP, n.d.).

Blake Adams, Mississippi Excellence in Teaching Program Assistant for the University of Mississippi, states, “METP has put the School of Education on an equal level with other disciplines in its ability to attract top performing students” (B. Adams, personal communication, November 4, 2015). Dr. Oliphant-Ingham, a METP English professor, echoes the positive impact the program has had on the School of Education. “The METP fellows have brought excitement and enthusiasm to the School of Education at an earlier stage. This program puts fellow in secondary education classes first semester of their freshman year. Regular secondary education students are not exposed to education classes until their junior year. METP fellows are gaining recognition for the School of Education across campus as ambassadors, orientation leaders, and members of the honors college” (R. Oliphant-Ingham, personal communication, November 4, 2015).

The members of the prestigious METP cohorts continue

to have exciting college experiences ahead of them. In addition to cross campus visits each semester, the Class of 2017, 2018, and 2019 will travel abroad, allowing students to view education on an international level. Students also will attend a national teaching conference during their senior year. Further, fellows have the opportunity to observe high performing United States schools (METP, n.d.).

Due to the five-year Mississippi teaching commitment, these top groups of individuals have the possibility to greatly impact Mississippi schools in the future and increase perceptions of the type of student who enters the education profession. Many eyes will continue to be on the fellows, but these students simply are taking attention as an opportunity to shine for education.

---

## REFERENCES

- Achieve, Inc., (2012, December 8). Implementing the Common Core State Standards: The role of the secondary school leader. Retrieved from <http://www.achieve.org/publications/implementing-common-core-state-standards-role-secondary-school-leader-action-brief>
- Bruhn, M. (2014). Challenging “Waiting for Superman”. *Phi Delta Kappan*, 95(5), 47.
- Bushaw, W.J. & Lopez, S.J. (2011). Betting on teachers: The 43<sup>rd</sup> annual Phi Delta
- Kappa/Gallup poll of the public’s attitudes toward the public schools. *Phi Delta Kappan*, 93(1), 8-25.
- Bushaw, W. J., & Lopez, S. J. (2012). A nation divided: The 44th annual Phi Delta Kappa/Gallup Poll of the public’s attitudes toward the public schools. *Phi Delta Kappan* 94(1), 8-25.
- Labaree, D. F. (1995). The lowly status of teacher education in the United States: The impact of markets and the implications for reform. *Teacher education in industrialized nations: Issues in changing social contexts*, 41-85.
- Lankford, H., Loeb, S., McEachin, A., Miller, L. C., & Wyckoff, J. (2014). Who enters teaching? Encouraging evidence that the status of teaching is improving. *Educational Researcher*, 43(9), 444-453.
- Mehta, J. (2013). Why American education fails. *Foreign Affairs*, 92(3), 105-116.
- Meyer, C. K. (2013). The literacy needs of adolescents: What do content-area teachers know?. *Action in Teacher Education*, 35(1), 56-71.
- Mississippi Excellence in Teaching Program (n.d.). Retrieved from <http://metp.org>
- MSSTATE (2013, January 22). MSU, UM announce MS Excellence in Teaching Program (*Mississippi State University*). Retrieved from <http://www.msstate.edu/web/media/detail.php?id=5861>
- Paine, S. L., & Schleicher, A. (2011). What the US can learn from the world’s most successful education reform efforts. New York: McGraw-Hill Research Foundation.
- Sackler, M., Ashman, B., & Lawler, J. (Producers) & Sackler, M. (Director). (2010). *The lottery* [Drama film/documentary]. United States: Great Curve Films.
- Skoll, J. & Weyermann, D. (Producers) & Guggenheim, D. (Director). (2010). *Waiting for “Superman”* [Documentary]. United States: Participant Media, Walden Media, Electric Kinney Films.
- Tate, W., & University of Colorado at Boulder, N. (2011). Review of “The Lottery”. *National Education Policy Center*.
- Zhao, Y. (2012). *World class learners: Educating creative and entrepreneurial students*. Corwin Press.

# Role of Educators in Identifying Family Environment and Sexual Abuse Among African American Youth

**Praphul Joshi**  
**Mihae Bae**

**Abstract:** Risky sexual behaviors and sexual abuse are major problems facing the teens, especially among ethnic minorities. This study is based on a survey of over 1200 African American students regarding the prevalence of sexual abuse and their family characteristics. Results of this study indicated a high prevalence of sexual abuse among the teens and a greater need to emphasize the importance of family values among the youth. This study should also help in tailoring interventions to reduce the incidence of risky behaviors and sexual abuse among youth.

*About the authors:* Dr. Praphul Joshi is an associate professor at Lamar University. He is coordinator of the Masters of Public Health program. Dr. Mihae Bae is an assistant professor at Lamar University and is a faculty in the department of Health and Kinesiology.

**Keywords:** sexual abuse, parenting, African American youth

## INTRODUCTION

Many studies found that extreme stress resulting from childhood experiences abuse causes extreme stress that can disrupt child development emotionally, socially, and cognitively (CDC, 2012; Topping & Barron, 2009). Experts agree that children who have been physically or sexually abused appear to be at great risk of psychiatric disturbance behavioral, emotional disorders (Ackerman, Newton, McPherson, Jones, & Dykman, 1998). Research has found that risk factors are directly related to the degree of ordeal the children or adolescents suffered and how long they were in the situation, when they began to be abused, who the perpetrator of sexual abuse was (Ackerman et al., 1998; Dowdell, Cavanaugh, Burgess, & Prentky, 2009).

Sexual abuse can appear to begin early in people's lives. Research has found that sexual abuse rates differed significantly depending on the family the children lived with (Blum, Beuhring, Shew, Bearinger, Sieving, & Resnick, 2000; USDHHS, 2010). According to Fourth National Incidence Study (NIS-4) (USDHHS, 2010), there were significant differences in children living with two biological parents compared with children living with a single parent with a cohabiting partner. Dowdell et al. (2009) reported that 84% of girls in foster care were

sexually abused, and 64% of those were sexually abused by more than one individual.

NIS-4 (USDHHS, 2010) also found that there are significant socioeconomic status (SES) differences in adverse childhood experiences sexually, physically, and emotionally. Children in families of low socioeconomic status experienced sexual abuse more than 2 times the rate, physical abuse almost 3 times the rate, and emotional abuse more than 5 times the rate for children not in families of low SES.

Sexual abuse can occur at any age. According to a CDC (2012) survey of sexual violence including rape, 42% of women were first raped before the age of 18. Further, 29% of female rape victims were first raped between ages of 11-17. Considering gender, 12% of female and 27.8% of male rape victims were first raped at age 10 or younger. Further, 11.8% of girls and 4.5% of boys from grades 9-12 reported that they were forced to have sexual intercourse at some time (CDC, 2012). This sexual violence concerns many experts and educators working for children and adolescents, because abused children are more likely to engage in sexual risk-taking as they reach adolescence, increasing their chances of contracting a

sexually transmitted disease, and also to be involved in forcing other to have sex (Dowdell et al., 2009).

The ages of consent for sexual activity have widely varied by jurisdiction in the United States. The age of consent in the United States varies between 16 and 18 compared to the age of consent in Canada which is 16 year. For example, the age of consent in the state of Mississippi is 16 years and any person above 18 years of age is considered to be an adult. But it is 17 in the neighboring state of Louisiana. This study was done in South Carolina, where the age of consent is 16, and any person older than 18 is considered an adult. Statutory rape law relates to the age of consent, so it also varies from state to state. Each state includes a link to the state website where the information can be found. This variation among states can create confusion that might not only prevent adolescents from accessing information or resources on safer sex and sexual health (Black, 2006), but also keep law enforcement from protecting minors under the law due to different applied judgment (Miller, Cox, & Saewyc, 2010).

The high rate of adolescents' high risk sexual behaviors is a significant social and public health problem (CDC, 2007; Fergus, Zimmerman, & Caldwell, 2007; Joshi, Lindley, Lyman, & Vincent, 2010). Numerous studies have associated these sexual risk behaviors with teen pregnancy and sexually transmitted infections (Lestrade, Talbot, Ward, & Cort, 2013). Research on high-risk sexual behaviors has found the effect of contextual situations such as difficulties in the home or community that comprehensively influence people living within the given context, especially adolescents and children.

Children and adolescents living in communities characterized by high levels of poverty, unemployment, substance abuse, and exposure to violence are at higher risk for being victim of violence including sexual abuse (CDC, 2007; Chen, 2010; Jones, Ajitutu, & Johnson, 1996). African American disproportionately represented communities. Studies showed high rate of the African American house-holds have single parents or one parent living with another adult (Blum et al., 2000). According to NIS-4 (USDHHS, 2010), African American children were sexually abused almost 2 times for Caucasian children and almost 1.5 times for Hispanic children. Other studies found that young African American females were likely to be exposed to sexual abuse that involves sexual intercourse very early in life (Blum et al., 2000; Lestrade et al., 2013; Waldrop-Valverde, Davis, Sales, Rose, Wingood, & DiClemente, 2013). Many studies have related these problems to African American adolescents (Blum et al., 2000; Chen, 2010; Choe, & Zimmerman,

2014). Therefore, it is essential to identify primary risk factors that place the young in vulnerable situations in which they are subject to such victimization (Widome, & Resnick, 2008; DuRant, Cadenhead, Pendergrast, Slavens, & Linder, 1994; Lestrade et al., 2013).

## ABOUT THE STUDY

The main objectives of the study were: 1) To determine the prevalence of sexual risk behaviors and sexual abuse among African American youth; and 2) To evaluate the relationship between the family environment and the sexual abuse among African American youth. This study was based on the 2006 Adolescent Health and Behavior Survey (AHAB) self-reported responses of the large numbers (over 1200 students) of African-American youth who completed the surveys. The large number of respondents afforded the researchers/or the authors the opportunity to describe the population of youth in these two school cluster areas as to the prevalence of sexual behaviors, sexual abuse and family environment.

## METHODOLOGY

### *Study Population*

The authors/or researchers obtained the data for this study from 8<sup>th</sup>, 10<sup>th</sup> and 12<sup>th</sup> grade students enrolled in two school cluster-areas within an urban South Carolina city, and a school cluster-area in a suburb contiguous to the city. School cluster-area studied was comprised of a 9<sup>th</sup>-12<sup>th</sup>-grade high school and the 6<sup>th</sup>-8<sup>th</sup> grade middle school(s) and K-5<sup>th</sup> grade elementary schools that fed into the high school. The three school cluster-areas were within communities that were the recipients of a five-year comprehensive school/community teen pregnancy prevention and health promotion initiative begun in the fall of 2003.

The Office of Research and Evaluation in the School District coordinated and administered the Adolescent Health Attitudes and Behavior Survey (AHABS) in January 2006. This office regularly administered all district testing and had strict protocols for the designated coordinator and the teachers at each school supervising the testing sessions and data collection. Passive informed consent from parent/guardian was obtained prior to the testing.

### *Sample*

The intent was to survey the entire 8<sup>th</sup>, 10<sup>th</sup> and 12<sup>th</sup>

grade populations attending school on the designated testing day. Total population by school and grade was established annually by the District's "45-Day membership and Attendance Report" for students in the first 45 days of the school year. From 10<sup>th</sup> and 12<sup>th</sup> grade students 679 usable surveys were obtained; and from the 8<sup>th</sup> grade population 542 usable surveys were obtained. Not included were the students absent on the testing day, opt-out students without parent consent, blank answer forms, mutilated answer forms, and answer forms with less than 50 responses.

## INSTRUMENT AND MEASURES

The Adolescent Health and Behaviors Survey (AHAB survey) was the instrument used in this study. The following instruments were used in the creation of the AHAB survey instrument: CDC Youth Risk Behavior Survey (YRBS), the Adolescent Curriculum Evaluation (ACE), the Youth Sensitive, and the Survey of Student Resources and Assets by the Search Institute. Reliability was established through Cronbach's  $\alpha$  coefficients. Factor loadings ranged from 0.48 to 0.84 for scales measuring attitudes towards adolescent sexual behavior and  $\alpha$  coefficients ranged from 0.61 to 0.81. Factor loadings ranged from 0.34 to 0.90 for scales measuring youth asset and  $\alpha$  coefficients ranged from 0.69 to 0.85.

Variables used for this study included sexual risk behaviors, sexual abuse and family environment. Tables 1 and 2 represent the specific variables used for this study. Sexual behaviors were measured by the questions: ever had sexual intercourse; had sexual intercourse with 2 or more partners in the past three months; and the age of first sexual intercourse. Inconsistent and improper responses towards grade levels, gender, and questions related to "ever had sexual intercourse" accounted towards exclusion criteria for this study. Students were

also asked about the age of their sexual partners. Based on the student's age and their partners the rate of sexual abuse was calculated (minors having sex with adults). Another set of questions asked students whether they were forced to have sex and if they had forced others to have sex. The elements for family environment were derived mainly from the questions regarding who were parenting the youth. The choices were categorized into students living with mother and father (MF – real and adopted), single parents (SP – mother or father only), two adult parents (TAP – mother with another adult or father with another adult) and others (OTH – guardians, other relatives or non-relatives).

### Data Analysis

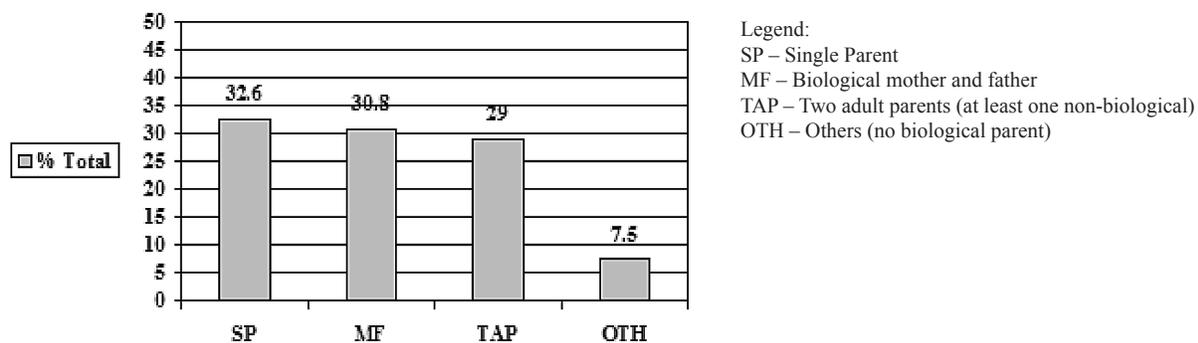
Basic descriptive statistics included means, and percentages of the study variables categorized by grade levels. The null hypothesis for the study stated family environment has no effects on sexual abuse among 8<sup>th</sup>, 10<sup>th</sup> and 12<sup>th</sup> graders. Testing the hypothesis was done using analysis of variance (ANOVA) on all the variables using F-values. The level of significance was set for  $p = 0.05$  for all analyses.

## RESULTS

### Demographic characteristics

Final sample for the study analysis included 1012 participants upon using all the exclusion criteria. The study population had about 54% girls and 46% boys. Figure 1 indicates the distribution of the study sample based on the family characteristics. About a third (33%) of the students lived with single parents, followed by mother and father (31%), two adult parents (29%) and others (8%).

**Figure 1:** Distribution of the study participants with regard to family environment



*Sexual experience by gender*

Table 1 represents the percentages of boys and girls with regard to sexual experiences. Results indicated about 64% of the boys and 55% of the girls were non-virgins. Among those who were non-virgins, 94% of the boys and 79% of the girls had sex while being a minor (before 16 years of age). This gender difference was statistically significant ( $p < 0.05$ ). Results also indicated a statistically significant difference between boys and girls with regard to the prevalence of sexual abuse (minors having sex with adults). The prevalence of sexual abuse among girls was significantly higher (22%) compared to boys (9%). About 15% of all the boys and girls reported they were forced by someone to have sex.

**Table 1:** Gender differences in sexual experience and abuse among study participants

Variable	Male		Female		All	
	n	%	n	%	n	%
Non-Virgins	278	63.6	301	54.6	579	58.6
Having sex before 16 years (Minors)*	271	94.1	227	78.5	498	86.3
Minors have had sex with an adult*	22	8.5	62	21.8	84	15.6
Has been forced to have sex	64	15	77	14.6	141	14.8
Ever forced anyone to have sex	32	7.7	32	6	64	6.7

\* Statistically significant findings:  $p < 0.05$

*Sexual experience by family environment*

Table 2 represents the results of sexual experience and abuse related to family environments for the study population. With regard to family environment, the highest rates of non-virgins were among OTH (72%) followed by SP (65%), TAP (58%) and MF (50%). The analysis of variance indicated the MF group had significantly lower rates of non-virgins compared to SP and OTH ( $p < 0.05$ ).

Results indicated that about 8% of the boys and 6% of the girls had forced someone to have sex. This difference was not statistically significant. With regard to being sexually abused, MF and TAP had significantly lower rates (14% and 13% respectively) compared to SP and OTH (18% AND 19% respectively). About 20% of the respondents in the TAP group indicated they were forced to have sex followed by OTH (19%), SP (16%) and MF (9%). In this analysis, the MF group had statistically significant lower rates of being forced to have sex compared to all other groups ( $p < 0.05$ ). Similarly, the MF group had the lowest rates for having forced someone to have sex (4%) followed by TAP (6%), OTH (8%) and SP (10%). In this analysis the MF group had statistically significant lower rates of forcing someone to have sex compared to SP and OTH groups ( $p < 0.05$ ).

**Table 2:** Comparison of sexual abuse and family environment among the study participants

Variable	MF	SP	TAP	OTH
Non-Virgins*	50.0%	64.5%	57.6%	72.0%
Having sex before 16 years (Minors)	82.1%	87.8%	90.4%	78.1%
Minors have had sex with an adult*	13.9%	17.8%	13.4%	18.9%
Has been forced to have sex*	8.8%	15.6%	19.5%	18.9%
Ever forced anyone to have sex*	4.0%	10.2%	5.5%	8.3%

\* Statistically significant findings:  $p < 0.05$

## DISCUSSION

### *Summary of the significant findings*

This study had several statistically significant findings. Although boys had highest rates of sexual intercourse compared to girls, they were less likely to be sexually abused compared to girls. However, with regard to being forced to have sex there were no gender differences. This finding also indicates a potential gender difference in the perception of being sexually abused.

With regard to the family environment, youth belonging to the MF group had consistently lower rates of sexual activity and abuse compared to all other groups. Results indicated that all other groups were almost twice as likely to be forced to have sex compared to the MF group. Similarly, results indicated that youth belonging to the SP and OTH groups were twice as likely to force others to have sex compared to the MF group. The results, like many studies, echoed that children or adolescents living with extended family members were at great risk of sexual abuse.

### *Practical considerations*

Since sexual abuse was highly related to family structure, vulnerable students who belong to the SP and OTH groups can be monitored at school. Early recognition and intervention is critical considering that child sexual abuse significantly influences early childhood development. Since NIS-4 (USDHHS, 2010) found that the school staff recognized that 39% of the children who experienced Endangerment Standard maltreatment, schools can play a significant role not only in recognizing child abuses including sexual abuse, but also in raising awareness to promote a safe environment for children and adolescents by running an education or prevention program that empowers children who are less likely to know what the adults are doing and who have difficulty distinguishing between appropriate touching and inappropriate touching due to their maturity or their vulnerability to the environment. Also it would be helpful to establish an effective channel for frequent communication for students and their parents because parent support is an important factor. Further, a network system that enables educators to connect to professionals and specialists would enable more effective reporting so that intervention can be established. Because child

abuse impacts not only the child and family, but society as a whole, open communication between the schools, the families, and Children's Services could benefit society by establishing a safety-net for young students and adolescents. It is necessary to constantly evaluate and reevaluate the effect of the strategic approaches in order to extend more support.

The age of consent for sexual activity plays an important role in establishing the legal age when school personnel and parents can protect children from being exposed to sexual victimization, and build effective communication for the purpose. Protecting minors from sexual abuse promotes to their physical, emotional, and psychological well-being.

### *Strengths and weaknesses*

The strengths of the study were the large sample size (more than 1200 students completing the surveys) and also the range of questions of the survey. These multiple questions encouraged the participants to reveal their sexual experiences including sexual abuse, without directly asking them about sexual experiences. Although the study had these strengths, there were some limitations related to the method of collecting data. The data collected relied on students' anonymous, self-reported responses. Therefore, without knowing which student provided answers indicating problems, the monitor could not provide assistance or interventions for those students. Because the data were collected in an urban city in South Carolina, generalization to other areas is problematical. Also the data were collected in 2006, and may have changed in the intervening years.

## CONCLUSIONS

Results of this study show the magnitude of the sexual risk behaviors and the prevalence of sexual abuse among African American youth. Results also indicate the importance of having both parents to reduce the incidence of risky sexual behaviors. Understanding specific family factors related changes in attitudes and behaviors among the youth should enable effective tailor-made interventions to prevent sexual abuse and related complications.

## REFERENCES

- Ackerman, P. T., Newton, J. E., McPherson, W. B., Jones, J. G., & Dykman R. A. (1998). Prevalence of post traumatic stress disorder and other psychiatric diagnoses in three groups of abused children (sexual, physical, and both). *Child Abuse and Neglect*, 22(8): 759-774.
- Black, D. (2006). Age of consent uproar; will law protect vulnerable kids or 'criminalize' teenage sex? Police welcome protection against child exploitation; youth workers see 'criminalization' of teen sex. *Toronto Star*, 19 June 2006.
- Blum, R. W., Beuhring, T., Shew, M. L., Bearinger, L. H., Sieving, R. E., & Resnick, M. D. (2000). The effects of race/ethnicity, income, and family structure on adolescent risk behaviors. *American Journal of Public Health*, 90(12):1879-1884.
- Centers for Disease Control and Prevention (2007). Youth Risk Behavior Survey 2007. Department of Health and Human Services. Available from <https://www.cdc.gov/yrbs>
- Centers for Disease Control and Prevention (2012). Sexual violence facts at a glance. National Center for Injury Prevention and Control. Available from <http://www.cdc.gov/violenceprevention>
- Chen, W.Y. (2010). Exposure to community violence and adolescents' internalizing behaviors among African American and Asian American adolescents. *Journal Youth Adolescence*, 39(4): 403-413. doi: 10.1007/s10964-009-9427-7
- Choe, D. E., & Zimmerman, M. A. (2014). Transactional process of African American adolescents' family conflict and violent behavior. *Journal of Research on adolescence*, 24(4): 591-597. Doi:10.1111/jora.12056
- Dowdell, E. B., Cavanaugh, D. J., Burgess, A. W., & Prentky, R. A. (2009). Girls in foster care: a vulnerable and high-risk group. *American Journal of Maternal/Child Nurse*, 34(3): 172-178. Doi: 10.1097/01.NMC.0000351705.43384.2a
- DuRant, R. H., Cadenhead, C., Pendergrast, R. A., Slavens, G., & Linder, C. W. (1994). Factors associated with the use of violence among urban black adolescents. *American Journal of Public Health*, 84(4): 612-617.
- Fergus, S., Zimmerman, M., & Caldwell, C. (2007). Growth trajectories of sexual risk behavior in adolescence and young adulthood. *American Journal of Public Health*, 97(6): 1096-1101.
- Garrett, D. (1995). Violent behaviors among African-American adolescents. *Adolescence*, 30(117):209-216.
- Jones, F. C., Ajrotutu, C., & Johnson, J. (1996). African American children and adolescents exposure to community violence: a pilot study. *Journal of Cultural Diversity*, 3(2): 48-52.
- Joshi, P., Lindley, L. L, Lyman, S., & Vincent, M. L. (2010). Risky sexual behaviors and attitudes among African American youth. *National Social Science Journal*, 33(2): 98-105.
- Lestrade, K. N., Talbot, N., L., Ward, E. A, & Cort, N. A. (2013). High-risk sexual behaviors among depressed black women with histories of intrafamilial and extrafamilial childhood sexual abuse. *Child Abuse and Neglect*, 37(6): 400-403. doi: [10.1016/j.chiabu.2013.01.007](https://doi.org/10.1016/j.chiabu.2013.01.007)
- Miller B., Cox D., Saewyc E. (2010). Age of sexual consent laws in Canada: Population-based evidence for law and policy. *Canadian Journal of Human Sexuality*, 19(3), 105-119.
- Topping, K.J., Barron, I.G. (2009). School-based child sexual abuse prevention programs: A review of effectiveness. *Review of Educational Research*, 79(1): 431-463.
- U.S Department of Health and Human Services (USDHHS) (2010). Fourth national incidence study of child abuse and neglect (NIS-4): Report to congress. Retrieved from [http://www.acf.hhs.gov/programs/opre/abuse\\_neglect/natl\\_incid/index.html](http://www.acf.hhs.gov/programs/opre/abuse_neglect/natl_incid/index.html)
- Waldrop-Valverde, D., Davis, T. L., Sales, J. M., Rose, E. S., Wingood, G. M., & DiClemente, R. J. (2013). Sexual concurrency among young African American women. *Psychology Health and Medicine*, 18(6): 676-686. doi:[10.1080/13548506.2013.764462](https://doi.org/10.1080/13548506.2013.764462)

# “Basically, You Have to Teach Them to Love What They Are Writing About”: Perceptions of Fourth Grade Writing Teachers

Melinda Miller  
Helen Berg  
Donna Cox

**Abstract:** In recent years, writing instruction in public schools has begun to focus more and more on test preparation, though research has identified writing workshop and 6 +1 Traits as best practices for writing instruction. In order to determine the methods of writing instruction used in classrooms identified as exemplary by the Texas, the authors of this manuscript held two focus groups with fourth grade teachers. During the focus groups, teachers were asked to describe the ways they teach writing and talk about what makes them successful writing teachers. This manuscript presents the information gleaned from the focus groups and compares it to the research on writing instruction.

*About the authors:* Dr. Melinda Miller is a Professor at Sam Houston State University and teaches in the Department of Language, Literacy and Special Populations. She serves as the Advisor for the Masters in Reading Program. Dr. Helen Berg is an Associate Professor at Sam Houston State University and teaches in the Department of Language, Literacy and Special Populations. She serves as Assistant Chair of the department. Dr. Donna Cox is an Associate Professor at Sam Houston State University and teaches in the Department of Language, Literacy and Special Populations. She coordinates the Reading program.

**Keywords:** writing, instruction, best practices, writing workshop, 6+1 traits of writing

## INTRODUCTION

When Ms. Kelly’s fourth graders filed into their classroom after lunch, their teacher asked them to go to their seats and begin working on the packet of writing prompts that was waiting on their desks. The state test was in one month, and they had been preparing for it since August by writing to prompts that mimicked the real writing test. As they slid into their seats, a chorus of groans and sighs could be heard around the room. Cindy, who sat in the first row, groaned the loudest. At the beginning of school it had been fun to flip through the writing packet and see what prompts she was going to write about each day. But now, months later, she dreaded writing time each day, and she longed for the afternoon bell to ring so she could go home and work on her cat story in her composition book her dad had bought for her. She had been working on this story for about a week, and she was excited to add the illustrations and finishing touches. Down the hall, Ms. Pierce had just finished status of the class, and she was settling down to her conference table to call the first

student for a conference. Maryann excitedly plopped into the chair next to her teacher. She was beginning to make revisions on her story about her family’s trip to the circus. She read the story aloud to Ms. Pierce, who listened intently, then asked, “Can you tell me more about what it felt like to ride on an elephant?” Around the room, Maryann’s classmates were busily working on their writing pieces. Some were making pre-writing webs, others were editing, and still others were making their revised and edited pieces into published books. Ms. Pierce was proud of her students’ writing, and though she was sure they would do well on the state test next month, she planned to go over test-style writing prompts with the students starting about two weeks before the test to insure they would be familiar with the testing format.

Both classrooms in the scenario could possibly be found in today’s public schools. In recent years, high stakes testing has had a major impact on literacy instruction in the classroom. All too often, rather than focusing on students’ strengths and needs as indicated

by on-going assessment, many teachers are pressured by the administration to teach to the test by engaging in test-like activities (Darling-Hammond & Wise, 1985). In fact, standardized tests drive the curriculum in many school districts (Barrentine, 1999). As a result of this change in focus, the curriculum is narrowed, instructional time is wasted, and teachers lose autonomy (Campbell, 2002; Vacca & Vacca, 2001). Nichols and Berliner (2008) point out that, "...in high-stakes testing environments, we often see the test over influencing teaching, resulting in a narrowing of the curriculum offered to students to just what is on the test" (p. 12). According to Matthews (2004), "opportunities for combining fun and learning [are] being squeezed out by test preparation." Literacy researchers have raised the question of whether or not teachers can meet the demands placed upon them by high stakes tests and still use best practices in writing instruction (Higgins, Miller, & Wegmann, 2006). Frawley (2014), asserts, "The practice of good writing development needs to be facilitated despite the demands of the high-stakes environment..." (p. 23). According to Fletcher (2001), students actually perform better on standardized tests when their instruction is based on best practices, rather than when their teachers teach to the test. Manzo (2001) emphasizes that students who have received effective writing instruction score better on standardized writing tests than those who have been subjected to drill and practice of isolated skills. Higgins, Miller, and Wegmann (2006) have identified Writing Workshop and 6+1 Traits of writing (Northwest Regional Educational Laboratory, 2004; Education Northwest, 2011; Coe, 2000; Arter, Spandell, Culham, & Pollard, 1994; Jarmer, Kozol, Nelson, & Salsberry, 2000) to be best practices. These methods are based upon recognition of the social nature of language (Vygotsky, 1978); the importance of student centered learning (Moffett, 1983); and developmentally appropriate practice (Jalongo, 2003). The purpose of this study was to explore the types of writing instruction schools are implementing in 4<sup>th</sup> grade classrooms where students are performing successfully on high-stakes tests. We examined the methods of writing instruction used in selected elementary schools (fourth grade) in two regions (including rural and urban districts) of Texas that have achieved the ranking of Exemplary or Recognized. Districts receive ranks based upon student scores on the state assessment. Possible ranks are Unacceptable, Acceptable, Recognized, and Exemplary.

## LITERATURE REVIEW

A review of the writing objectives for all fifty states showed that all states have some aspects of Writing

Process (prewriting, drafting, revision, editing, and publishing) and the Six +1 Traits of writing (voice, ideas and content, sentence fluency, organization, word choice, and conventions) in their objectives. Specifically in Texas, the Texas Essential Knowledge and Skills (TEKS) objectives for writing clearly delineate the use of the Writing Process. However, not all of the Six +1 Traits of writing are as clearly defined in the objectives as is Writing Process. Voice and word choice are individually identified. Ideas and content, organization and sentence fluency are identified in the TEKS as "producing cohesive and coherent texts by organizing ideas and using effective transitions." Conventions cover two objectives. This review of the TEKS objectives indicated that teachers should use Writing Process and Six +1 Traits of writing in their writing instruction.

### *The Writing Process/Writing Workshop*

Traditional test preparation for writing can be formulaic in that "students are taught to write a conventional five-paragraph essay" (Higgins, Miller, & Wegmann, 2006, p31). This kind of writing instruction focuses on the product, rather than the process. The product is judged by an unknown audience, according to criteria which the test makers believe to be important. Routman (2005) states, "The joy has gone out of writing. From elementary school through high school, many students are receiving extensive test preparation, much of it learning to write to a formula" (p. 244). According to Wolf and Wolf (2002), "Driven by state testing, teachers are being pulled toward prompt-and-rubric teaching that bypasses the human act of composing and the human gesture of response" (p. 230). Process-oriented instruction encompasses "the human act of composing" and "the human gesture of response," preparing students to write for any purpose they may encounter throughout their lives.

Students need choice, time, and response, or feedback, in order to write effectively (Atwell, 1987; Routman, 1994; Wood & Dickinson, 2000). The Writing Workshop model (Flower & Hayes, 1991; Atwell, 1987; Graves, 1983) provides these important elements for its participants. Cooper and Kiger describe Writing Workshop as "a flexible plan that places students and teacher in a partnership for learning" (2003, p. 442).

In a typical Writing Workshop, students work independently or in small groups at various stages of the Writing Process. In the Writing Process, students first do pre-writing and organize their thoughts. Next, they write a first draft. Afterwards, they revise and edit, then write or publish a final copy of their work. During Writing Workshop, the teacher may begin by engaging

the students in a mini-lesson about a skill or an aspect of writers' craft. Next young writers work on their writing pieces, taking them through the Writing Process. The teacher calls students for writing conferences, during which the writer reads her piece and talks with the teacher about aspects of her writing. Other students have peer conferences and help each other make decisions about their writing, giving feedback about both content and mechanics. At the end of Writing Workshop, the teacher may ask if anyone wants to share their writing with the whole group. Students take turns sitting in the Author's Chair and reading their pieces. Ideally, classrooms have Writing Workshop every day and take several pieces through the entire Writing Process during the school year. Typically, schools hold an Authors Celebration at the end of the school year and invite parents and administrators to come and hear students' writing pieces.

In their interviews with nine third-graders involved in Writing Workshop, Fu and Lamme (2002) found that time, choice, and response were important to children. They viewed themselves as writers and enjoyed writing because they were given a choice of writing topics and time to write. The Writing Workshop enables students to interact socially and use cognitive processes to become effective writers.

Shelton and Fu (2004) reported successful scores on the Florida Comprehensive Assessment Test in the classroom of a teacher who used Writing Workshop/ Writing Process. As a result of the instruction, students demonstrated their willingness to work hard at writing and reported that they enjoyed writing. When writing test scores were analyzed, the teacher's class average was higher than the state average, and she had more students in her class score a 5 (the highest possible score), than in any other class in the school's history. Furthermore, experts in the writing field (Calkins, 1994; Calkins, Montgomery, Santman, & Falk, 1998; Campbell, 2002; Falk, 1998; Graves, 1983; Kern, Andre, Schilke, Barton, & McGuire, 2003) assert that students schooled in authentic writing experiences consider themselves writers who can meet the demands of writing tasks. While these studies show a connection between Writing Process and test scores, the lack of other research indicates that this area is ripe for exploration.

#### *Six + 1 Traits*

Arter, Spandel, Culham, and Pollard (1994) conducted a study in which they measured the effectiveness of the Six + 1 Traits with six classrooms of fifth graders. A treatment group of 67 students and control group of 65 students were formed randomly. The treatment

group received direct instruction on three of the traits, ideas, organization and voice, while the control group received no specific training on any of the traits. The teachers in the control group provided instruction in pre-writing. The treatment group showed substantial growth in mean scores (0.00-0.87 on a 5 point scale for the three traits directly taught with minimal growth (0.10-0.53) reported for the untaught traits. The control group showed minimal growth (0-0.21) for all six traits. The researchers concluded that student writing improves with instruction on the Six +1 Traits.

Coe, (2000) reported a study of 780 writing samples from third, fifth, eighth, and eleventh graders which were scored to determine the relationship of Six +1 Traits and holistic assessments. The relationship was shown that each of the traits was highly predictive of passing the Washington Assessment of Student Learning in Writing. The findings suggest that a model using the sum of the Six +1 Traits scores was a predictor of success for 79% of the students (Coe, 2000). According to Coe, students' use of the traits was "strongly predictive" of their passing the state test for Washington. Models using Ideas, Conventions, or Sentence Fluency accurately predicted whether or not 75% of students would pass the test, while models using Organization, Word Choice, or Voice, accurately predicted the success of 70% of the students.

James, Abbot, and Greenwood (2001) conducted a study in a fourth grade classroom, in which the teacher used writing process, writing workshop and the Six +1 Traits of writing. The purpose of the study was to determine whether or not the instructional practices used in the school met the writing standards mandated by the state and district. After a nine week instructional period, post-test scores showed an improvement over the pre-test scores, and according to the researchers, the improvements occurred because of the of Six +1 Traits and Writers Workshop.

In Kansas, researchers conducted a study with Kindergarten through third grade students, focusing on narrative writing instruction using the Six +1 Traits of Writing. The research suggests that students' scores improved from a 1 or 2 scored paper to a 3, 4, or 5 with an average 54% increase for Kindergarten, 92 % for first grade, 54% for second grade, and 68% for third grade, 40% for fourth grade, 42% for fifth grade. State writing scores increased in both Language Expression and Mechanics (Jarmer, Kozol, Nelson, and Salsberry, 2000).

Researchers agree that students experience greater

success on high stakes writing tests when their teachers use best practices for writing instruction. Our study's major goal was to investigate teachers' perspectives on what they did in the writing classroom to help their students become successful writers. Beyond concern for standardized test scores, it is our hope that students will become proficient writers who write for a variety of purposes, consider themselves authors, and find enjoyment in the act of writing. In order to gain teachers' perspectives, we chose qualitative methodology as a means to understand "the meaning people have constructed, that is, how they make sense of their world and the experiences they have in the world" (Merriam, 1998, p.6).

## METHODOLOGY

Qualitative methods enabled the researchers to delve deeply into the teaching methods used by selected fourth grade writing teachers. The researchers implemented focus groups with fourth grade writing teachers in schools identified as Exemplary and Recognized by the state of Texas to address the following research question: What are the writing instructional practices implemented in Exemplary and Recognized schools? The focus groups revealed perspectives of the reality experienced by the participants. The following questions were used as a springboard for the focus group conversations: 1) What methods do you use for teaching writing in your classroom? 2) Which writing methods are required by your school district? 3) Which methods do you use because you love them and enjoy doing them? 4) What makes you the successful writing teacher that you are? and 5) What makes your students successful?

## DATA SOURCES

To identify schools with Recognized or Exemplary ratings, the researchers examined 2009 Texas Assessment of Knowledge and Skills (TAKS) writings scores. Teachers from six elementary schools were selected to participate in two different focus groups to explore the phenomenon of the writing practices in Exemplary and Recognized schools. The researchers explored fourth grade writing instruction practices to correlate with the first year these students were administered the writing portion of TAKS.

### *The Teachers*

A total of 16 teachers participated in the focus groups. The first focus group consisted of 10 teachers, two

from each of five elementary schools in a rural East Texas town. The second focus group included six ESL teachers from a school in a large urban district. All of the participants were women, and all of them had been teaching between seven and 15 years. Six of the teachers identified themselves as Latinas and 10 as white.

### *Focus Groups*

The first focus group took place at 3:30 in the afternoon in the board room of the administration building of the rural school district. The 10 teachers and the researchers sat around tables, and as the researchers asked the questions, the teachers discussed them, talking amongst themselves and to the researchers. This focus group was recorded with an audio recorder. The second focus group took place in the classroom of one of the teachers in the urban school district at 3:30 in the afternoon. All six participants and the researchers sat in chairs that were arranged in a circle. The researchers asked the questions, and all participants took part in the conversation, taking turns answering the questions.

## FINDINGS

Results from the focus groups indicated that there is widespread use of Writing Workshop/Writing Process and the use of 6+1 Traits of writing in the identified classrooms, which is consistent with successful teaching practices identified in the literature review. When we asked teachers the questions about what made their students successful writers, three overarching themes emerged: 1) the teacher as the leader or guide in the process; 2) the students as authors, and finally, 3) the teacher teaching strategies through mini-lessons and modeling.

**Teachers as Leaders.** When teachers were asked what made them a successful writing teacher, overwhelming they responded with comments referring to their role as the leader and guide in the writing process. One teacher mentioned, "I have to say I have a passion for writing, and it comes across in my teaching. If you have enthusiasm, students will as well." Another teacher stated, "I talk my thoughts out loud." Yet another said, "I use lots of modeling. Students like to see the teacher's product as well." One teacher emphasized the importance of knowing her students by saying, "We have to know the child and what makes them successful." In addition, a different teacher expanded on this by saying, "I tell the kids not to worry about spelling, just to get their thoughts down on the paper, like they are telling it. I don't want to crush their creativity."

Teachers Teaching Strategies. The teachers in the focus groups spoke about teaching writing strategies to their students in a variety of ways. Some of their favorite strategies for writing instruction included modeling, shared writing, multisensory grammar, personal conferences, mini-lessons, music for brainstorming, Six +1 Traits lessons, picture books, hands-on lessons, and games. The teachers emphasized the use of feelings, senses, and silly sayings that use emotions. One teacher said, “We do a lot of model writing, and we share stories and write them on the board.” In addition, she emphasized the importance of letting the students pick relevant topics that they know about to write about. For example, she explained, “the students would actually keep on their writer’s workshop binder a list of ideas so when they don’t have anything to write about, they can go back to their list and find something, and if they can’t find an idea on their own list, they would switch lists with other kids, and the kids would write down anything that wasn’t on their list.” Another teacher stated, “I use picture books to show word choice and how authors put words together to create an interesting story.” Another said, “We use rubrics to let them know what we are looking for, based on the Six+1 Traits, with kid-friendly language.” Some of the teachers described the power of using colored pencils when teaching about paragraphing. One teacher commented that she teaches skills in small chunks and that writing every day was key to keeping students excited about writing. Another described how her students listen to and think about each other’s stories, and she commented that this helped her students to be successful writers. Still another teacher explained that her students engage in extensive revising and editing with each other. Furthermore, teacher feedback and specific praise was important for students in order to validate the process of writing. The teacher stated, “I would write the feedback on sticky notes, for example, ‘I like when you wrote this or said this. I like your voice in this’ or what I like about it or think they could improve. The teacher writing sticky notes throughout the paper shows the students that it actually mattered to the teacher and made a big difference. Otherwise, the teacher writing ‘good job’ is like writing ‘good penmanship.’ I like to concentrate on a specific thing that I just enjoyed.” Another teacher reported asking students to “think of creating a movie in their mind.” Finally another teacher summed it up with, “Basically, you have to teach them to love what they are writing about.”

**Students as Successful Authors.** Teachers were asked to talk about what makes their students successful writers. Some of the teachers’ responses include the following: “We try to stay excited about writing,” “I show them more than one way to organize,” “During conferences, I

get to know my students and help them learn what works for them,” and “They learn the process that it takes several steps to produce a quality piece.” One teacher stated, “We have writing workshop and write every day.” Another emphasized the importance of having writing conferences and talking about strengths and weaknesses. Still another described the exciting atmosphere in her classroom that she has created around the writing process. She stated, “We have lots of excitement about writing, the hands-on lessons, and games.” Lastly, one teacher commented on the importance of using rubrics and setting goals. She reported, “We use Six +1 Traits and rubrics and set goals.”

## DISCUSSION

The perspectives of the fourth grade teachers who participated in the study seemed to mirror effective writing instruction strategies illustrated in the literature review. Overwhelmingly, the teachers mentioned aspects of the writing process and Writing Workshop. They described using pre-writing or brainstorming, frequent and sustained times to write, revising, and editing. They also emphasized skill instruction within the context of writing, and the importance of teacher and peer conferences. The teachers also used many pieces of the Six +1 Traits of writing, for example, developing voice, ideas, word choice, and conventions in their teaching. They see themselves as leaders and guides in writing instruction. They immerse themselves in this process as they exhibit their passion and enthusiasm for writing, which they pass along to their students. The teachers also emphasized the importance of helping students learn skills and strategies that will help them become proficient writers. According to the teachers in the focus groups, the ultimate goals of writing instruction are for students to see themselves as authors and for writing to become something that they love.

Thinking back now to the scenarios at the beginning of the article, we encourage teachers to listen to their students’ moans and groans when they are participating in something they do not find interesting, or to their excited tones as they choose their own topics and write their own masterpieces. Culham (2014) puts it nicely,

...pay attention to when students groan when they don’t want to write, when they have to be dragged through the writing process and into conferences, kicking and screaming. Maybe it’s the topic, maybe it’s their history with writing, maybe it’s just flat-out scary to think of putting words on a page. Whatever’s holding

your students back, figure it out—and provide an antidote quickly (Culham, 2014).

Young writers should be allowed choice of writing topics; daily, sustained time to write; response to what they have written; and support from a knowledgeable and caring teacher as they work through the writing process. Furthermore, it is important for teachers to teach writing conventions through the context of writing in mini-lessons or conferences; and it is beneficial for students to see and hear the works of great authors whose style and craft they can adopt into their own unique brand of writing.

As faculty preparing pre-service teachers, we hope that this study will encourage school districts to utilize best practices in writing instruction based upon the findings of researchers of the past and the findings of this study. Because high-stakes testing is a reality in our society, we feel that our study will be relevant to teachers and teacher educators in the field of literacy whose goal is not to teach students to pass a standardized writing test, but to nurture young authors as they find their voice and learn to write for multiple purposes throughout their lives.

## REFERENCES

- Arter, K., Spandell, V., Culham, R., & Pollard, J. (1994). The impact of training students to be self-assessors of writing. New Orleans. Paper presented at AERA.
- Atwell, N. (1987). *In the middle: Writing, reading, and learning with adolescents*. Portsmouth, NH: Boynton/Cook.
- Barrentine, S. J. (1999). *Reading assessment: principles and practices for elementary teachers*. Newark, DE: International Reading Association.
- Calkins, L. M. (1994). *The art of teaching writing*. Portsmouth, NH: Heinemann.
- Calkins, L., Montgomery, K., Santman, D., & Falk, B. (1998). *A teacher's guide to standardized reading tests*. Portsmouth, NH: Heinemann.
- Campbell, M. (2002). Constructing powerful voices: Starting points for policy driven literacy assessment reform. *Journal of Reading Education*, 27, 17-23.
- Coe, M.T. (2000). Direct writing assessment in action: Correspondence of six-trait writing assessment scores and performance on an analog to the Washington Assessment of Student Learning writing test. Portland, OR: Northwest Regional Educational -Laboratory. Retrieved February 16, 2005 from <http://www.nwrel.org/assessment/pdfGener>.
- Cooper, J., & Kiger, N. (2003). *Literacy: Helping children construct literacy*. Houghton Mifflin.
- Creswell, J. W. (1998). *Qualitative inquiry and research design, choosing among five traditions*. Thousand Oaks, CA: Sage Publications.
- Culham, R. (2014). Teaching writing is hard enough: Stop doing dumb things. *Reading Today*, 31 (5).
- Darling-Hammond, L. & Wise, L. (1985). Beyond standardization: State standards and school improvement. *Elementary School Journal*, 85, 315-336. Newark, DE: International Reading Association.
- Education Northwest (2011). 6+1 trait writing. Retrieved from <http://educationnorthwest.org/traits>
- Falk, B. (1998). Testing the way children learn: Principles for valid literacy assessments. *Language Arts*, 76, 57-66.
- Fletcher, R. (2001). *Writing workshop: The essential guide*. Portsmouth, NH: Heinemann.
- Flower, L. & Hayes, J. (1981). A cognitive process theory of writing. *College Composition and Communication*, 32 (14), 365-387.
- Frawley, E. (2014). No times for the "Airy Fairy": Teacher perspectives on creative writing in high stakes environments. *English in Australia*, 49 (1), 17-26.
- Fu, D. & Lamme, L. (2002). Assessment through conversation. *Language Arts*, 79 (3), 241-250.
- Graves, D. (1983). *Writing: Teachers and children at work*. Portsmouth, NH: Heinemann.
- Higgins, B., Miller, M., & Wegmann (2006). Teaching to the test...not! Balancing best practice and testing requirements in writing. *The Reading Teacher*, 60 (4), 310-319.
- Jalongo, M. R. (2003). *Early childhood language arts*, 3<sup>rd</sup> Ed. Boston: Allyn & Bacon.
- Jarmer, D., Kozol, M., Nelson, S., & Salsberry, T. (2000). Six Trait writing model improves scores at Jenny Wilson Elementary. *Reading Improvement*, 1(2), 29-32.
- Kern, D., Andre, W., Schilke, R., Barton, J., & McGuire, M. (2003). Less is more: Preparing students for state writing assessments. *Reading Teacher*, 56, 816-826.
- Manzo, K. (2001, December 12). Schools stress writing for the test. *Education Week on the Web*. Retrieved June 8, 2004 from <http://www.edweek.org/ew/newstory.cfm?slug=15write.h21>.
- Mathews, J. (2004, March 9). Examining no child left behind. *Washington Post*. Retrieved June 17, 2004, from <http://www.washingtonpost.com/ac2/wp-yn?pagename=article&contented=A42360-2004>.

- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass Publishers.
- Moffett, J. (1983). *Teaching the universe of discourse*. Portsmouth, NH: Boynton/Cook.
- Nichols, S. & Berliner, D. (2008). *Collateral damage: How high-stakes testing corrupts America's schools*. Cambridge, MA: Harvard Education Press.
- Northwest Regional Educational Laboratory. (2004). *About 6 +1 Trait Writing*. Retrieved June 28, 2004, from <http://www.nwrel.org/assessment/myth.asp>
- Routman, R. (2005). *Writing essentials: Raising expectations and results while simplifying teaching*. Portsmouth, NH: Heinemann.
- Routman, R. (1994). *Invitations: Changing as teachers and learners K-12*. Portsmouth, NH: Heinemann.
- Shelton, N., & Fu, D. (2004). *Creating space for teaching writing and for test preparation*. *Language Arts*, 82, 120-128. Retrieved from <http://www.haverford.edu/psych/ddavis/psych212h/The%20test%20mess.htm>
- Vacca, R., & Vacca, J. (2002). *Content area reading: Literacy and learning across the curriculum*. Boston: Allyn and Bacon.
- Vygotsky, L. S. (1978). *Mind in society*. Cambridge, MA: Harvard University.
- Wolf, S.A., & Wolf, K.P. (2002). *Creating space for teaching writing and test preparation*. *Language Arts*, 79, 120-128.
- Wood, K., & Dickinson, T. (2000). *Promoting literacy in grades 4-9*. Boston: Allyn and Bacon.

# The Relationship between Middle School Students' Mathematical Vocabulary and their Achievement in Mathematics

Alanna L. Bowie

**Abstract:** In 2000, National Council of Teachers of Mathematics (NCTM) included communication in the standards encouraging students to develop their mathematical language in order to sufficiently and accurately explain their ideas through discourse. Pierce and Fontaine (2009) state that the language requirement established by NCTM is primarily due to the required high-stakes benchmarks that are administered in many states throughout the country. Regardless of the complex vocabulary utilized in the assessments, students are expected to have sound conceptual understanding of the mathematics terminology, which are uniquely specific to mathematics (Pierce & Fontaine, 2009). Although, it has been speculated for some time, there has been little empirical research conducted to validate the theories regarding the importance of vocabulary acquisition and mathematics comprehension. In 2014, a study was conducted utilizing 131 eighth grade students' data to determine if there is an association between the two variables.

*About the Author:* Dr. Alanna L. Bowie is an Assistant Professor of Middle/Secondary Education at Georgia Southwestern State University.

**Keywords:** vocabulary, discourse, student achievement

## INTRODUCTION

Learning with understanding is increasingly receiving critical attention from educators, school administrators and psychologists, which has substantially elevated it as one of the primary goals for all subjects collectively (Stylianides & Stylianides, 2007). The realization of this goal has been somewhat problematic, especially in the domain of mathematics education. While the vision of students learning mathematics with understanding has often appeared in curriculum guidelines, the implementation of the vision has been mediocre. (Stylianides & Stylianides, 2007).

## LITERATURE REVIEW

### *The Language of Mathematics*

The goal of improving mathematical skills and having students to provide explanations regarding their work has been the focus for the National Council of Teachers of Mathematics (NCTM) for several years (NCTM, 1989). Pierce and Fontaine (2009) state that language is

increasingly playing a vital role in learning mathematics. Students are expected to possess a sound conceptual understanding of complex word problems irrespective that many of the words used in assessments (i.e. benchmarks, standardized tests) are uniquely specific to mathematics. Consequently, students' success in mathematics is profoundly based on their essential foundation of mathematics vocabulary and the depth of their previous mathematics vocabulary experience (Pierce & Fontaine, 2009). In 2006, Lager states that vocabulary and linguistic abilities are a growing acknowledged essential in making mathematical connections. Thus, eroding the misconception that mathematics is not a language-dependent subject; particularly since many students associate learning mathematics to learning a second language. The interdependence relationship of language and mathematics is a necessary skill for students to learn algebra and higher-level concepts (Lager, 2006).

Monroe and Orme (2002) indicate that language of mathematics is similar to reading comprehension; students must know the vocabulary to understand what they are reading; however, several obstacles can interfere with vocabulary acquisition. One such obstacle is the

rarity in which students are provided the opportunity to speak mathematically outside of the classroom. Additionally, many mathematics teachers mistakenly disregard teaching vocabulary in the classroom further limiting students' ability to learn, build and broaden their individual vocabularies. Furthermore, many mathematical vocabulary terms have different meanings within the realm of mathematics rather than those found in everyday life. This can further hinder students' ability to utilize their background knowledge to construct logical inferences about unfamiliar concepts (Monroe & Orme, 2002).

In the NCTM, Pirie (1996) states that teachers have to assist students in using mathematical vocabulary appropriately. The language of mathematics should be utilized in the classroom daily providing students the ability to listen to the context to extract logical inferences or definitions. This use of mathematics vocabulary requires the teacher to be cognizant of students' discourse in the classroom. Thus, listening for students' misuses of mathematics vocabulary out of context should be a teacher's priority. Utilizing an example from NCTM (1996), if a student says the word twice to represent the word squared, the student may have misinterpreted the problem or it may be a common misinterpretation of the word's meaning throughout the class. Therefore, it is critical for the teacher, as well as the students, to listen to the discourse being communicated throughout the classroom to correct any vocabulary terms used erroneously (NCTM, 1996).

Morgan (2005) asserts that a key feature of mathematics language is the vocabulary connection. The process of acquiring mathematical discourse requires that students extend beyond writing and simply memorizing definitions. The acquisition of mathematical vocabulary requires students to develop and explain their meaning of vocabulary terms by sorting through any misconceptions or ambiguities. Morgan states that it is essential for the teacher, and the students to participate in meaningful dialogue in mathematics class so both participants can successfully extract the fundamental meaning of the mathematical terms (Morgan, 2005).

### *Mathematics Discourse*

Anna Sfard (2001) suggests that traditional research practices regarding mathematical thinking (i.e. students' misconceptions) has prompted a reevaluation of teaching and learning mathematics. Sfard (2007) believes that the evolution of a student's discourse is a critical component and an underlying principle for learning mathematics. Sfard defines mathematical discourse as the ability to

communicate mathematically with others as well as with oneself. Noted in her previous studies, Sfard asserts that effective mathematics communication occurs when all of the participants feel confident in their mathematical discourse using the same vocabulary terms when referencing the same topic (Sfard, 2007).

Walshaw and Anthony (2008) argued that students who do not engage in conversations might not develop conceptual meaning of mathematics. Therefore, classroom discourse is important because when teachers and students engage in meaningful discourse, a shift occurs with students' attention focusing from procedural rules to making meaning of their mathematical experiences (Walshaw & Anthony, 2008).

## **METHODOLOGY**

### *Participants*

The study took place in a middle school with a student population of 847 students, and approximately 70 teachers, and staff members. The student body comprised of 271 sixth graders, 286 seventh graders, and 290 eighth graders. Despite having over 35% economically disadvantaged families enrolled, the NW school impressively met adequate yearly progress or AYP every year in all categories since the 2005-2006 school year. The population of students consisted of 46% females and 54% males, who were assigned to one of three eighth grade teams. For practicality purposes, the researcher identified each team by a letter (A, B, and C respectively). Team A, which was the most diverse team, had a student population of 107 students. Team A's population consisted of 22 special education students, 29 gifted and 56 general education students who were taught by four academic and three special education teachers. Team B's student population consisted of two gifted and 115 general education students who were taught by four academic teachers. Team C was the smallest team with a student population of 62 regular education students. However, it was unlike the other teams because there were only two academic teachers who taught two different contents. One academic teacher taught mathematics and social studies while the second academic teacher taught English language arts and science. There was one small self-contained class of eighth grade students; the four students' data were not collected for this study. Although, the majority of the 286 students completed both assessments and were invited to share their results for this study; only 131 students or approximately 46% were willing to contribute their data.

## PROCEDURE

To assist in determining whether or not there is a correlation between the acquisition of mathematics vocabulary and students' achievement in mathematics, the researcher utilized two different instruments. One instrument would have to measure students' overall achievement in mathematics while the other instrument would focus on eighth grade students' fundamental knowledge of mathematics vocabulary. The first instrument utilized was the former state mandated test known as the Georgia Criterion Referenced Competency Test (CRCT). The CRCT assessment was designed to measure the students' overall academic performance in one of five content areas (i.e. reading, English language arts, mathematics, science and social studies). The second instrument was an eighth grade vocabulary assessment, which was designed to measure students' comprehensive understanding of middle grades mathematics vocabulary terms. Unlike the state test, there currently wasn't a valid and reliable vocabulary test to utilize, requiring the researcher to create an assessment. The researcher, with the assistance of eight mathematics teachers, several students, and months of analyzing for reliability and validity utilizing the WINSTEPS application, was able to successfully create and develop an instrument. The newly created vocabulary instrument was determined to be an effective tool in measuring students' comprehension of eighth grade mathematics vocabulary utilizing terms obtained from the Georgia Common Core Curriculum.

The entire population of eighth grade students (with the exception of the self-contained special education students) were administered the mathematics vocabulary assessment the second full week of May 2014. Each of the three mathematics teachers administered the assessment to their students in a quiet classroom, absent of visual aids, to assist with establishing the validity of the assessment. Students who required extra time for testing (according to their Individualized Education Program or IEP) were provided extended time as needed; however, it was documented that no students required any additional time. The vocabulary assessments were completed on a scantron form and graded utilizing a scantron machine. The scores from the vocabulary assessment were compared to the Mathematics CRCT results, which was administered in April 2014.

## RESULTS

The two sets of results from the CRCT and the vocabulary assessment were analyzed using descriptive statistics. Table one displays a descriptive analysis of both assessments; the independent variable (x) was the mathematics vocabulary assessment, while the dependent variable (y) was the CRCT scores. The data show that the vocabulary assessment has a mean score of approximately 70 (passing) and a mean score for the CRCT as 846 (meets), with standard deviation of 15.77/38.80 respectively.

**Table 1:** Descriptive statistics for vocabulary scores (x) and CRCT scores (y)

	Min Score	Max Score	Mean	Standard Deviation
Vocabulary Scores (x)	24%	100%	69.82	15.77
Students' CRCT Scores (y)	765	990	846.20	38.80

The Pearson correlation (r) was utilized to examine if there was a correlation between the two variables using the formula below:

$$r = \frac{1}{n-1} \sum_{i=1}^n \left( \frac{X_i - \bar{X}}{s_X} \right) \left( \frac{Y_i - \bar{Y}}{s_Y} \right)$$

Moore, McCabe and Craig (2012) described how the correlation r measures the strength and direction associated between two quantifiable variables.

Correlation r determines the strength of the variables  $-1 \leq r \leq 1$ , whereas a score close to -1 is an inverse correlation and a score close to +1 is a direct correlation (Moore, McCabe & Craig, 2012). The correlation r for the x and y variables was .67 establishing that there is a positive association between the variables (fig. one). The correlation between the two variables and the p-value was calculated at  $p=0.0001$ , which is less than the significance level of  $p=0.05$  convincingly indicating that the data were statistically significant.

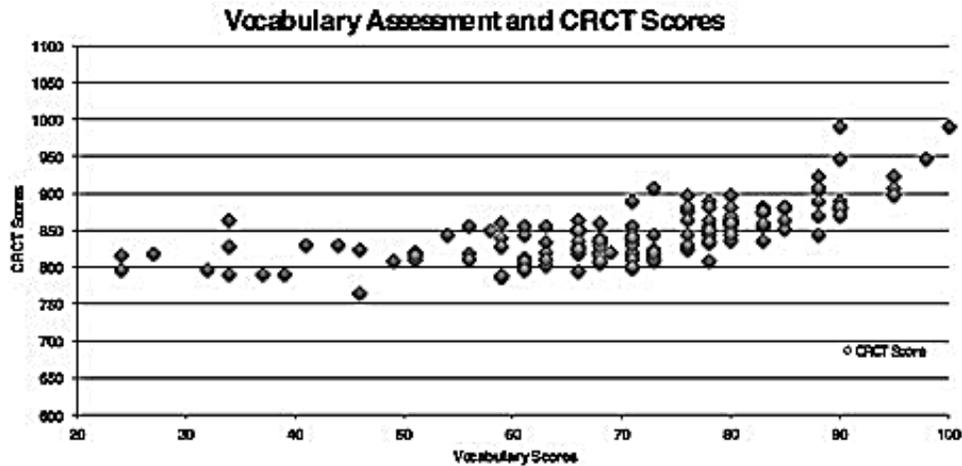


Figure 1. Scatter plot results for the Pearson Coefficient Correlation  $r$  (131 students).

## SUMMARY AND FUTURE RESEARCH

This study provided some credible evidence and insight regarding the importance of vocabulary acquisition and its association with mathematics achievement. The research conducted was predicated on the premise that students' overall performance in mathematics may be associated with their vocabulary acquisition, which ultimately influences their ability to mathematically communicate. While the researcher examined a relatively small segment of the student population a convincing conclusion was nevertheless achieved. Based on the literature and the evidence supported by the researcher's findings, there is a correlation between mathematics vocabulary and student achievement. While mathematics vocabulary research appears to be somewhat in the beginning stages, it is clearly a topic, which warrants additional empirical research and further exploration.

This study was limited to one eighth-grade population of students. The researcher believes that future studies could and should be conducted in the primary grades in order to examine when students' vocabulary understanding begins to decline or simply identify when students begin to misunderstand critical vocabulary terminology. Additionally, the researcher believes that it would be feasible to examine if vocabulary acquisition is as equally important for students' academic success in other content areas of the education continuum.

## REFERENCES

- Lager, C. (2006). Types of mathematics-language reading interactions that unnecessarily hinder algebra learning and assessment. *Reading Psychology, 27*(2), 165-204.
- Monroe, E. E., & Orme, M. P. (2002). Developing mathematical vocabulary. *Preventing School Failure, 46*(3), 139-142.
- Morgan, C. (2005). Words, definitions and concepts in discourses of mathematics, teaching and learning. *Language and Education, 19*(2), 103-117.
- National Council of Teachers of Mathematics. (1989). *Curriculum and evaluation standards for school mathematics*. Reston, VA: National Council of Teachers of Mathematics.
- National Council of Teachers of Mathematics. (1996). *1996 Yearbook communication in mathematics k-12 and beyond*. Reston, VA: Authors.
- National Council of Teachers of Mathematics. (2000). *Principles and standards for school mathematics*. Reston, VA: Author.
- Pierce, M. E., & Fontaine, L. M. (2009). Designing vocabulary instruction in mathematics. *Reading Teacher, 63*(3), 239-243.
- Pirie, S. E. B. (1996). Is anybody listening? In National Council of Teachers of Mathematics. (1996 Eds.), *Yearbook Communication in Mathematics K-12 and Beyond* (pp. 105-115).
- Sfard, A. (2001). There is more to discourse than meets the ears: Looking at thinking as communicating to learn more about mathematical learning. *Educational Studies in Mathematics 46*, 13-57.
- Sfard, A. (2007). When the rules of discourse change, but nobody tells you: Making sense of mathematics learning from a commognitive standpoint. *The Journal of the Learning Sciences, 16*(4), 567-615.
- Stylianides, A. J. & Stylianides, G. J. (2007). Learning mathematics with understanding: A critical consideration of the learning principle in the principles and standards for school mathematics. *The Montana Mathematics Enthusiast, 4*(1), 103-114.
- Walshaw, M. & Anthony, G. (2008). The teacher's role in classroom discourse: A review of recent research into mathematics classroom. *Review of Educational Research, 78*(3), 516-551.



# Do Mathematics Courses for Elementary Teachers Contribute to the Development of Mathematical Knowledge Needed for Teaching of Preservice Elementary Teachers?

Leslie Soltis

**Abstract:** Many prominent educators assert that mathematical proficiency is the primary goal of mathematics education at all levels. Professional organizations cite that teaching mathematics for conceptual understanding is a fundamental goal of mathematics teacher education. In response, curriculum leaders in higher education have developed a series of mathematics courses designed specifically for elementary teacher candidates. While many studies have described deficits in conceptual understanding among elementary teacher candidates, fewer studies have focused on teacher learning and strategies to develop their conceptual understanding. Adult learning theories have implications for teacher education curricula. Informed by these theoretical frameworks, the purpose of this literature review is to gain a deeper understanding of how teacher education programs may contribute to the development of prospective elementary teachers' mathematical knowledge for teaching.

**About the author:** *Leslie Soltis is an instructor at Edinboro University of Pennsylvania. She currently teaches a two-course sequence of mathematics courses designed for elementary teachers.*

**Keywords:** mathematics, preservice elementary teachers, teacher education, adult learning theory

## INTRODUCTION

The seminal work of Shulman (1986) identifies three forms of teacher knowledge: subject matter content knowledge, pedagogical content knowledge, and curricular knowledge.

Subject matter content knowledge involves not only the quantity of facts and concepts of the subject matter acquired by a teacher, but also the quality of the organization these structures in the mind of the teacher. The well-prepared teacher is able to define accepted truths in a domain and also explain why such truths are worth knowing and how they are related to other truths (Shulman, 1986). Pedagogical content knowledge involves the most powerful ways to represent topics in the subject area that helps others comprehend. The well-prepared teacher understands student conceptions and misconceptions and employs appropriate strategies in her teaching (Shulman, 1986). Shulman (1986) provides the following analogy referencing curricular knowledge:

We expect the mature physician to understand the full range of treatments available to ameliorate a given disorder, as well as the range of alternatives for particular circumstances of sensitivity, cost, interaction with other interventions, convenience, safety, or comfort. Similarly, we ought to expect that the mature teacher possesses such understandings about the curricular alternatives available for instruction. (p. 10)

The primary goal of mathematics education is to produce mathematically proficient individuals. Kilpatrick, Swafford, and Findell (2001) propose five strands of mathematical proficiency: conceptual understanding, procedural fluency, strategic competence, adaptive reasoning, and productive disposition. These attributes align with the objectives of reform mathematics, which are typically grounded in social constructivist learning theories (Andrews, 2010). The strand particularly relevant to this review is productive disposition,

which “includes the student’s habitual inclination to see mathematics as a sensible, useful, and worthwhile subject to be learned, coupled with a belief in the value of diligent work and in one’s own efficacy as a doer of mathematics” (Andrews, 2010, p. 191).

Shulman’s work (1986) would heavily influence the direction of mathematics education research for years to come. Ma and Kishor (1997) observe that prospective elementary teachers complete their degree programs lacking the mathematical knowledge needed for teaching. Ball, Thames, and Phelps (2008) describe the subsequent literature as an attempt to empirically understand the content knowledge needed specifically for teaching mathematics.

Ball et al. (2008) articulate four domains of mathematical content knowledge for teaching. Common content knowledge (CCT) is mathematical knowledge used in settings other than teaching, but is more detailed than what is necessary for everyday functioning. Skillful teachers are capable of identifying student errors, engaging in error analyses, applying procedural knowledge, and communicating conceptual understandings to students (Ball, Thames, & Phelps, 2008). Specialized content knowledge (SPK), on the other hand, is unique to teaching and is useful in decompressing mathematical knowledge to help develop student understanding. Skillful teachers are able to unpack mathematical concepts and ideas so they are visible and learnable by students (Ball et al., 2008). Teachers who possess knowledge of content and students (KCS) are capable of anticipating student interpretations of mathematical tasks, analyzing students’ mathematical thinking, and understanding common student conceptions and misconceptions (Ball et al., 2008). Teachers demonstrate their knowledge of content and teaching (KCT) when they effectively design, evaluate, and carry out mathematics instruction (Ball et al., 2008).

The combined effort of Shuman (1986) and Ball et al. (2008) regarding mathematical content knowledge, an emphasis on the development of productive dispositions toward mathematics, and adult learning theories all have important implications for teacher education curricula. The relationship between mathematical knowledge for teaching and mathematics education reform is a complex one, so this review of the literature will focus on how prospective elementary teachers’ learn mathematics.

## THEORETICAL FRAMEWORK

An important advancement in K-12 education has been the incorporation of children’s development theory into all aspects of curriculum (Feldhaus, 2012). Another important—and parallel—advancement in mathematics education reform will be an incorporation of adult’s development theory into all aspects of teacher education curriculum (Knowles, 1979; Mezirow, 1997; Perry, 1970), particularly as theory relates to mathematics courses for elementary teachers.

### *Knowles’ Adult Learning Theory*

According to Knowles (1979), in this rapidly changing world, the nature of teacher education needs to be process-centered, which is a departure from the traditional content-centered assumption. Knowles pledges that “A wonderful thing happens when learners come to see education as a process of building up their own personal competencies rather than accumulating credits, CEUs, or other brownie points” (p. 37).

This process is geared toward the development of mathematical knowledge for teaching and productive mathematical dispositions among prospective elementary teachers. An environment conducive to such a learning process should occur in the context of their mathematics courses and requires a variety of learning resources as well as an atmosphere characterized by mutual respect, trust, supportiveness, collaboration, and openness (Knowles, 1979).

### *Perry’s Intellectual Development Theory*

Perry (1970) describes the intellectual development of college-age students as a progression through nine positions which can be reduced to four stages: dualism, multiplicity, relativism, and commitment. Students in the dualistic stage receive knowledge without question and are preoccupied with solving problems the “right” way or obtaining the “right” answer. When students transition to the multiplicity stage, they begin to recognize that there are multiple ways to solve a problem, none of which are universally right or wrong. Relativism is characterized by students’ willingness to accept or reject the validity of different perspectives based on evidence. Students who commit within relativism possess metacognition skills and continuously act upon them.

Although Perry’s theory has been applied to the development of many university programs, there is less research on how his theory can benefit the development of curricula for mathematics courses specifically

designed to meet the needs of elementary teachers (Feldhaus, 2012).

#### *Mezirow's Transformation Theory*

According to Mezirow (1997), the purpose of adult education is to produce autonomous socially responsible thinkers. The nature of education is learner-centered, participatory, interactive, discovery-based, imaginative, and collaborative. An environment conducive to adult learning emphasizes learning from others and helping others in problem-solving groups.

Mezirow (1997) posits that “we do not make transformative changes in the way we learn as long as what we learn fits comfortably in our existing frames of reference” (p. 7). He believes the four processes of learning are: (a) elaborating an existing point of view by seeking evidence to support it, (b) establishing a new point of view by applying an existing point of view, (c) transforming an existing point of view by becoming critically reflective, and (d) transforming a habit of mind by repeatedly engaging in critical reflection.

#### *Sweller's Cognitive Load Theory*

As proponents of constructivist learning principles, Sweller and Chandler (1991) accept that students must reconstruct information in order to represent it but they completely reject the idea that educators should make it as difficult as possible for students to construct reality. They argue that “there is little evidence that presenting information in a manner that requires difficult cognitive work on the part of students results in any beneficial effects” (p. 357). Sweller and Chandler (1991) conclude that instructional techniques should try to reduce extraneous cognitive load in an effort to enhance learning.

#### *Bandura's Social Cognitive Theory*

Bandura (1989) asserts that becoming a competent professional usually requires sustained effort in the face of difficulties and setbacks. Therefore, a resilient self-efficacy is necessary attribute. “If people experience only easy successes, they come to expect quick results and their sense of efficacy is easily undermined by failure” (Bandura, 1989, p. 1179).

Mathematics courses for elementary teachers provide learning experiences that may be unsettling for prospective elementary teachers due to their emphasis on active learning and conceptual understandings. Teacher candidates are challenged to learn mathematics

in a different way than they were initially taught as they replace procedural knowledge with conceptual understanding.

## **RELATED LITERATURE**

#### *Prospective Elementary Teacher Misconceptions*

Quantitative and qualitative studies alike have identified and thoroughly described prospective elementary teachers' deficits in the same content areas they will be expected to teach someday. Such studies have revealed that prospective teachers are faced with cognitive conflicts in their understanding of repeating decimals (Burroughs & Yopp, 2010; Kastberg & Morton, 2014), interpretations of measures of central tendency and variability (Jacobbe, 2011), and differences between area and perimeter (Livy, Muir, & Mayer, 2012). In a revealing study by Capraro, An, Ma, Rangel-Chavez, and Harbaugh (2012), when prospective elementary teachers were faced with solving open-ended problems they did not consider multiple solutions, approached the problem haphazardly, gave up easily, could not explain their process and reasoning, and became frustrated quickly.

Many studies like these provide a snapshot of prospective elementary teachers' misunderstandings of mathematical concepts and unproductive mathematical dispositions at specific moments in time. Their findings provide teacher educators with valuable knowledge to implement effective educational interventions into the mathematics curriculum. This is a crucial responsibility of teacher educators considering that teachers' misconceptions are identified as a source of children's faulty reasoning (Kastberg & Morton, 2014). Teacher educators can use this knowledge to structure situations to address exposed cognitive conflicts (Burroughs & Yopp, 2010) and to incorporate experiences more consistent with adult learning theories, such as problem-based learning, modeling problem-solving strategies, and facilitating discourse among prospective elementary teachers (Capraro, An, Ma, Rangel-Chavez, & Harbaugh, 2012).

#### *Cultural Nature of Mathematics*

A popular misconception among researchers is that mathematics learning is “culture-free” (Hand, 2010), which may explain why the literature has largely ignored the cultural nature of mathematics teaching and learning (Andrews, 2010; Gill & Boote, 2012; Ma & Kishor, 1997; McCloskey, 2014). The literature documents that prospective elementary teachers hold deeply-entrenched

negative attitudes toward the teaching and learning of mathematics (Lutovac & Kaasila, 2014) and transfer these attributes onto their students (Capraro et al., 2012). Gill and Boote (2012) posit that “learning to teach mathematics correctly is primarily a matter of somehow overcoming school culture” (p. 4) and they urge researchers to frame studies that explain culture. McCloskey (2014) answers their call by exploring how rituals contribute to the enduring cultural nature of mathematics. She draws attention to the fact that “Despite student teaching’s long-standing status as a significant component of teacher education, there is much researchers do not know about its impact on preservice teachers, mentor teachers, classroom students, and on the profession of teaching as a whole” (p. 32). Her qualitative analysis suggests that the student-teaching experience tends to reinforce procedural mathematics, which is contrary to conceptual understanding, authentic problem solving, and student-centered learning (Gill & Boote, 2012).

## PROSPECTIVE ELEMENTARY TEACHER LEARNING

Davis and Sumara (2012) propose that teachers should be viewed as experts of learning, rather than experts at teaching. Their proposal is equally applicable to the teachers of teachers in the higher education settings. Viewing teachers as learners. This perspective aligns with demand made by Thanheiser et al. (2014) for more research in teacher education that examines the learning processes of prospective elementary teachers and associations between classroom practices and developmental changes in their learning. They are critical of literature that consists mainly of “static studies of learning” and make the following recommendations for future studies:

In [motion studies of learning] it is not enough to report pre data, describe the treatment, report post data, and indicate potential change; with motion studies, a clear description of the learning, the treatments implemented, any developmental change in learning, and an examination of possible correlations of the developmental change to implemented treatments are needed. (p. 440)

In their quantitative “motion study”, Bartell, Webel, Bowen, and Dyson (2013) discovered that prospective elementary teachers’ content knowledge was insufficient in predicting their ability to recognize evidence of children’s conceptual understanding. They found that

prospective teachers can benefit from activities designed to support their recognition of evidence of children’s conceptual understandings, as they demonstrated growth in their ability to recognize evidence of conceptual understandings—or lack thereof—in children’s responses related to the subtraction of decimals and multiplication of fractions. The authors suggest that qualitative methods are needed to understand how prospective teachers’ experiences influence their analysis of children’s thinking and how the cognitive demand of certain tasks relates to their ability to analyze children’s responses to those tasks (Bartell, Webel, Bowen, & Dyson, 2013).

Learning through case comparisons. Alfieri, Nokes-Malach, and Schunn (2013) define cases as “situations, events, or things (concepts, procedures, etc.), which have been experienced by, depicted for, or described to the person who is drawing the analogy (or comparing the cases)” (p. 88). Based upon their meta-analysis of 57 experiments using case comparisons, Alfieri et al. (2013) conclude the following: (a) case comparisons can be productive for learners with varying degrees of experience, (b) rich cases yield greater effects than do minimal cases in mathematics, and (c) case comparisons lead to greater learning outcomes when learners were asked to identify similarities as opposed to differences between the cases. Additional studies investigating the relationship between the type of instruction and the type of case are needed to test their hypothesis that guided instruction may be helpful in rich cases, whereas simple prompts may be sufficient for minimal cases (Alfieri, Nokes-Malach, & Schunn, 2013).

Impact of technology integration. Under the proper conditions, simulation-based computer-assisted learning can be effective for correcting statistical misconceptions of prospective elementary teachers and helping them understand statistical concepts (Liu, 2010). Such simulation-based learning activities are grounded in the theories of cognitive conflict and cognitive load.

The literature shows that virtual learning environments have the potential to transform the way prospective teachers’ develop mathematical knowledge for teaching during practicum experiences (Bestwick & Muir, 2013; Llinares & Valls, 2010). Bestwick and Muir (2013) posit that in actual classrooms there is a tendency for prospective teachers to notice that which confirms their existing beliefs, whereas the use of video excerpts facilitates teachers’ learning to notice children’s thinking, promotes professional discourse, encourages critical reflection of teaching practices, and develops an understanding of teaching decisions.

The literature also indicates that new communication tools have the potential to develop professional skills among prospective elementary teachers (Bestwick & Muir, 2013; Llinares & Valls, 2010), although more research needs to be done in this area (Llinares & Valls, 2010). Llinares and Valls (2010) found that providing structured guidance during online discussions “enabled prospective teachers to reflect on and integrate multiple aspects of teaching and begin to develop a more complex view of teaching” (p. 194).

## CONCLUSION

Prominent educators have delineated the mathematical content knowledge needed for teaching and described

productive mathematical dispositions. The literature has exposed not only the misconceptions held by prospective elementary teachers in a multitude of content areas, but also the unproductive dispositions they have toward the teaching and learning of mathematics. What is less known in the literature is how prospective elementary teachers learn mathematics. It is common knowledge that adults learn differently than children. Children’s learning theories have been incorporated into the development of curriculum in K-12 education, so adult learning theories should be incorporated into the development of teacher education curriculum. This professional knowledge will be instrumental in the development and improvement of mathematics courses for elementary teachers, which has significant implications for mathematics education reform.

---

## REFERENCES

- Alfieri, L., Nokes-Malach, T. J., & Schunn, C. D. (2013). Learning through case comparisons: A meta-analytic review. *Educational Psychologist*, 48(2), 87-113.
- Andrews, P. (2010). Finnish mathematics teaching from a reform perspective: A video-based case-study analysis. *Comparative Education Review*, 57(2), 189-211.
- Ball, D. L., Thames, M. H., Phelps, G. C. (2008). Content knowledge for teaching: What makes it special? *Journal of Teacher Education*, 59(5) 389-407.
- Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist*, 44(9), 1175-1184.
- Bartell, T. G., Weibel, C., Bowen, B., & Dyson, N. (2013). Prospective teacher learning: Recognizing evidence of conceptual understanding. *Journal of Mathematics Teacher Education*, 16, 57-79. doi 10.1007/s10857-012-9205-4
- Bestwick, K., & Muir, T. (2013). Making connections: Lessons on the use of video in pre-service teacher education. *Mathematics Teacher Education and Development*, 15(2) 1-22.
- Burroughs, E. A., & Yopp, D. (2010). Prospective teachers’ understanding of decimals with single repeating digits. *Investigations in Mathematics Learning*, 3(1), 23-42.
- Capraro, M. M., An, S. A., Ma, T., Rangel-Chavez, A. F., & Harbaugh, A. (2012). An investigation of preservice teachers’ use of guess and check in solving a semi open-ended mathematics problem. *The Journal of Mathematical Behavior*, 31, 105-116.
- Davis, B., & Sumara, D. (2012). Fitting teacher education in/to/for an increasingly complex world. *Complicity: An International Journal of Complexity and Education*, 9(1), 30-40.
- Feldhaus, C. A. (2012). How mathematical disposition and intellectual development influence teacher candidates’ mathematical knowledge for teaching in a mathematics course for elementary school teachers (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses Global database. (UMI No. 3540127)
- Gill, M. G., & Boote, D. (2012). Classroom culture, mathematics culture, and the failures of reform: The need for a collective view of culture. *Teachers College Record*, 114(12), 1-45.

- Hand, V. (2010). The co-construction of opposition within a low-track mathematics classroom. *American Educational Research Journal*, 47(1), 97-132.
- Jacobbe, T. (2011). Elementary school teachers' understanding of the mean and median. *International Journal of Science and Mathematics Education*, 10, 1143-1161.
- Kastberg, S., & Morton, C. (2014). Mathematical content knowledge for teaching elementary mathematics: A focus on decimals. *The Mathematics Enthusiast*, 11(2), 311-332.
- Knowles, M. S. (1979). The professional organization as a learning community. *Training and Development Journal*, 33(5), 36-40.
- Liu, T.C. (2010). Developing simulation-based computer assisted learning to correct students' statistical misconceptions based on cognitive conflict theory, using "correlation" as an example. *Educational Technology & Society*, 13(2), 180-192.
- Livy, S., Muir, T., & Mayer, N. (2012). How do they measure up? Primary pre-service teachers' mathematical knowledge of area and perimeter. *Mathematics Teacher Education and Development*, 14(2), 91-112.
- Llinares, S., & Valls, J. (2010). Prospective primary mathematics teachers' learning from on-line discussions in a virtual video-based environment. *Journal of Mathematics Teacher Education*, 13(2), 177-196.
- Lutovac, S., & Kaasila, R. (2014). Pre-service teachers' future-oriented mathematical identity work. *Educational Studies in Mathematics*, 85, 129-142. doi: 10.1007/s10649-013-9500-8
- Ma, X., & Kishor, N. (1997). Attitude toward self, social factors, and achievement in mathematics: A meta-analytic review. *Educational Psychology*, 9(2), 89-120.
- McCloskey, A. (2014). The promise of ritual: A lens for understanding persistent practices in mathematics classrooms. *Educational Studies in Mathematics*, 86, 19-38. doi: 10.1007/s10649-013-9520-4
- Mezirow, J. (1997). Transformative learning: Theory to practice. *New Directions for Adult and Continuing Education*, 74, 5-12.
- Perry, W. G. (1970). *Forms of intellectual and ethical development in the college years: A scheme*. New York, NY: Holt, Rinehart, and Winston.
- Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(2), 4-14.
- Sweller, J., & Chandler, P. (1991). Evidence for cognitive load theory. *Cognition and Instruction*, 8(4), 351-362.
- Thanheiser, E., Browning, C., Edson, A. J., Lo, J., Whitacre, I., Olanoff, D., & Morton, C. (2014). Prospective elementary mathematics teacher content knowledge: What do we know, what do we not know, and where do we go? *The Mathematics Enthusiast*, 10(2), 433-448.