Field Experience + Inclusive ECE Classrooms = Increased Preservice Teacher Efficacy in Working with Students with Developmental Delays or Disabilities

Julia T. Atiles *Jennifer L. Jones* *Hyunjin Kim*
Oklahoma State University *Sungkyunwan University*

The current study examined whether field placements within an inclusive classroom are associated with improved preservice teacher's efficacy when working with children with developmental delays or disabilities. Study participants were 165 undergraduate students enrolled in primary teacher education classes at a Midwestern university. Participants responded to a modified version of the Teacher's Sense of Efficacy Scale. A significant positive correlation between preservice teachers' efficacy of working with children with developmental delays or disabilities and their inclusive field experiences was found. Findings in this study stress the need for undergraduate early childhood education programs to utilize diverse, highly inclusive classrooms in their students' field experiences; not only in the hopes of increasing efficacy, but to also develop the skills and dispositions valued by our profession.

Introduction

Today's classrooms reflect the impact of current demographic changes of increased diversity among learners in the classroom. These changes bring many new challenges for teachers as well as teacher educators. Competent teachers must address the cultural and linguistic diversity present in our classrooms and communities, as well as the growing numbers of children with disabilities and other special learning needs present in our early childhood programs (NAEYC, 2009).

Early childhood teacher preparation programs strive to develop teachers with knowledge, skills, and dispositions to meet the needs of the young children in today's classrooms. The National Association for the Education of

Young Children (NAEYC, 2009) standards for early childhood professional preparation state that "excellence in teaching requires a continuous interplay of theory, research, and practice." NAEYC standards emphasize the centrality of field experiences beyond the common research-based knowledge (NAEYC, 2009). The teacher preparation standards focus on including all children to reach each standard.

Every standard is meant to include all children: children with developmental delays or disabilities, children who are gifted and talented, children whose families are culturally and linguistically diverse, children from diverse socioeconomic groups, and other children with individual learning styles, strengths, and needs (NAEYC, 2009).

A commitment to diversity and inclusion is a professional value that we expect early childhood education students to develop.

Need for inclusive field experience

Since the 1970s educating children with disabilities has been the legal responsibility of the public education system. Every child is entitled to a free and appropriate education in the least restrictive environment. The least restrictive environment is the requirement in federal law which entitles children with disabilities to an education with their typically developing peers, unless even with supplemental aids and services, they cannot succeed in such a classroom [20 United States Code (U.S.C.) Sec. 1412(a)(5)(A).]. Best practices in early intervention and early childhood education call for full inclusion of children with developmental delays or disabilities. The term *developmental delay* is used to describe young children, birth to age eight, who exhibit significant delays in their development age compared to their chronological age. *Developmental delays or disabilities* is a broad umbrella term often used to describe young children who are receiving early-

intervention services or educational services due to various disabling conditions (e.g., Autism, Down syndrome, Hearing Impairments).

The shift towards more inclusive practices in the educational placement of children with developmental delays or disabilities has occurred simultaneously with increasing prevalence rates for disabling conditions. For example, in a recent study conducted by the Center for Disease Control (CDC), Autism now affects 1 in every 110 children in our country (Rice, 2009). Rice (2009) states that "the average prevalence of ASDs [Autism Spectrum Disorders] identified among children aged 8 years increased 57% in 10 sites from the 2002 to the 2006." Unfortunately, Autism is not the only disability with prevalence on the rise. The CDC (2011) published results of an additional study that looked at trends in the frequency of developmental disabilities in U.S. children; results of this indicate that about 1 in 6 children had a developmental disability in 2006–2008. That is a 17.1% increase in the last 12 years. They also report the prevalence of Autism increasing by 289.5% and Attention Deficit Hyperactivity disorder (ADHD) increasing by 33%. Furthermore, the National Institute on Deafness and Other Communication Disorders (2010) calculates prevalence of stuttering, stammering, or other speech problems to be as high as 7.9% of 3-5 year old boys and 7.4% for 6-8 year old boys, with early childhood encompassing the age ranges of highest prevalence of speech and language disabilities.

Teacher educators cannot ignore these recent statistics and the impact they have on early childhood educators. If we, as teacher educators, are to adequately prepare preservice teachers for the reality of their classrooms, addressing the needs of growing numbers of children with developmental delays or disabilities demands our attention when developing coursework and field experiences. We are challenged to foster the development of a teaching workforce

that can be effective meeting the needs of all the children. Likewise, Early Childhood Education (ECE) teachers are charged with modifying their classrooms and instruction in order to meet the needs of all students. Thus, preparation of early childhood professionals must address the current trends towards inclusive education. In most states, the requirements for early childhood teacher certification include only one course related to children with developmental delays or disabilities. The lack of training provided by teacher education programs remains a barrier to successful inclusion (Frankel & Gold, 2007) and continues to disadvantage children with developmental delays or disabilities and their families.

Developing effective practitioners

Several researchers and theorists have addressed the concept of teachers' sense of efficacy as one that has tremendous impact on student achievement and motivation (e.g., Bandura, 1997, Ciyer, Nagasawa, Swadener, & Patet, 2010, Guskey, 1987, Henson, 2001, Hoy 2004, and Ross, 1992). According to Bandura (1994) efficacy is how people view their ability to handle events in their lives; as a result, these beliefs affect life decisions, motivation levels, how well individuals function, and how well they overcome adversity and deal with stress. Bandura outlines four main influences on the development of efficacy: mastery experiences, watching those similar to oneself succeed, influence from others that one can be successful, and input from oneself about strengths and weaknesses. Because life offers many hardships and setbacks, people must have a strong sense of efficacy to persevere and succeed. Lastly, Bandura suggests that efficacy is life-long, dynamic, and necessary aspect of successful functioning. Therefore, efficacy is malleable and can increase through experiences, such as preservice teachers' field placements. Field placements offer preservice teachers

learning opportunities to further their own development of efficacy (i.e., mastery experiences, watching those similar to oneself succeed, influence from others that one can be successful, and input from oneself about strengths and weaknesses).

Efficacy is linked to many positive outcomes, including more developmentally appropriate and innovative teaching practices and better student achievement (Cousins & Walker, 1995; Guskey, 1988), as well as teachers specifically being more purposeful in their work with developmentally delayed or disabled students (Allinder, 1994; Jordan, Krcaali-Iftar, & Diamond, 1993). Additionally, research has found that students are often more motivated when teachers perceive themselves to be self-efficacious (Ashton & Webb, 1986; Midgley, Fedlaufer, & Eccles, 1989), and additionally, a teacher's efficacy can lead students towards more class involvement and confidence when encountering challenges (Ross, 1998; Ross, Hogaboam-Gray, & Hannay, 2001), which can lead to higher student achievement (Moore & Essleman,1992). Woolfolk and Hoy (1990) and Woolfolk, Rosoff and Hoy (1990) found that teachers with higher levels of efficacy were able to more successfully implement classroom management strategies. Likewise, Ashton and Webb (1986) and Gibson and Dembo (1984) found that highly efficacious teachers could also work longer with struggling students. Additionally, research shows that teachers with higher efficacy feel more strongly about influencing their students' learning and even feel more confident when working with challenging learners (Guskey & Passaro, 1994). Studies about teachers' efficacy and children with developmental delays who are also English language learners found that higher efficacy teachers make fewer referrals to special education than those with lower efficacy (Paneque & Barbetta, 2006).

Brownell & Pajares (1996) studied the association between general education teachers' efficacy and how they taught students with learning and behavioral problems. These teachers viewed their high efficacy as related to their preservice teacher preparation, which enabled them to be more successful in their work with students with learning and behavior problems. Thus, teacher preparation affects teacher efficacy beliefs, which in turn will affect student outcomes, as the research above indicates. Furthermore, in a review of efficacy literature, Paneque and Barbetta (2006) found that studies examining when referrals of English-language learners to special education, the number is lower among teachers who perceive their efficacy as higher. These researchers suggest that feelings of efficacy are important in the use of inclusive practices.

Bandura (1994) includes the use of models in his discussion of efficacy. Students are highly influenced by models that are more like them. Thus, if preservice teachers observe classroom teachers effectively work with children with developmental delays or disabilities, then they are more likely to feel more self efficacious when they find themselves in that role. When the models, in this case mentor teachers, exhibit the competencies the preservice teachers need to develop, the preservice teachers' sense of efficacy develops in a positive way (Bandura, 1994).

As early childhood teacher educators, we strive to provide the knowledge and experiences that will support a teacher candidate's development into an effective practitioner. It is believed that practicum experiences are a vehicle to help preservice teachers translate the knowledge acquired in college courses to best practice in the classroom (NAEYC, 2009). After all, when we, as teacher educators, teach about the constructivist theory, we assert that knowledge is best constructed through experience. Thus, our

classroom teaching would not be complete without the hands-on learning component that the practicum provides.

Current Study

The current study was conducted at a Midwestern university with ECE undergraduate students. Similar to many other teacher preparation programs, requirements within this program include various field experiences. The participants in this study had the opportunity to complete their field experience in one of the seven Rise Schools that exists in the United States. The purpose of the Rise Schools is to provide the highest quality of early childhood education services to children with diverse abilities, including those with developmental delays or disabilities. Rise Schools strive to serve a high ratio (i.e., minimum of 1:3) of students with developmental delays or disabilities along with their typically developing peers**.** The philosophy of Rise Schools aligns closely with the DEC and NAEYC early childhood inclusion position statements (DEC/NAEYC, 2009). Furthermore, the particular Rise School where the participants completed field experiences had recently transitioned from operating as an independent program to becoming integrated with a university laboratory school accredited by NAEYC.

As teacher educators, we are continually assessing our program requirements to ensure preservice teachers are fully prepared to deal with the reality of today's classrooms: classrooms where children with developmental disabilities are part of the population of learners. Thus, the purpose of this study was to generate research knowledge that advances teaching and learning by demonstrating the impact of field experiences on ECE preservice teachers' efficacy. We were particularly interested in the impact of our required field experiences on the preservice teachers' sense of efficacy concerning working with children with developmental delays or disabilities. We hypothesized that preservice teachers sense

of efficacy with regards to addressing the needs of children with developmental delays or disabilities would increase as they spend more time in inclusive classroom settings.

Method

Participants

Participants in this study included 165 preservice teachers enrolled in an Early Childhood Education (ECE) undergraduate program. All participants were female and ranged in age from 19 to 30 years old (M = 20.97, SD = 1.67). The racial and ethnic identity of the sample as reported by participants was predominantly White (86%), with approximately 7% Native American, and less than 6% of the sample reporting as Latino, Asian, Biracial, or Other. Approximately 10% (n =15) of the participants were mothers. Thirty-six percent of participants were enrolled in their first ECE course; therefore, they had not completed any field experience. The remaining participants completion of field experiences (i.e., hours) in inclusive classrooms is as follows: 36 hours for 38%, at least 96 hours for 19%, at least 450 hours for 16%, and 4% of participants had completed over 900 hours.

Sampling procedure

Following institutional approval and course instructors' permission, students at all levels of their undergraduate studies in ECE were invited to participate (see Table 1). Students were read a script stating that the purpose of this study was to learn more about the impact of ECE program requirements on the their sense of efficacy when working with children with developmental delays or disabilities. Students were told that they were not required to participate and there was no penalty or reward associated with participation; all guidelines for participant recruitment were followed. Approximately 99% of eligible students chose to participate in the study.

Table 1.ECE undergraduate field experience requirements

Semester	ECE Related Courses	Location	Grade level	Clock hours
1	Foundation in ECE	Montessori School and Rise School/CDL	Preschool	36
2	Methods in Math, Science, Literacy, and Social Studies	Public schools	1st, 2nd, or 3rd grade	96
3	Pre-K or K Student Teaching & Classroom Behavior Management	Public schools or Rise School/CDL	Preschool or Kindergarten	450-500
4	Primary Student Teaching & Capstone Course	Public schools	1st, 2nd, or 3rd grade	450-500

***Note*: A comprehensive list of coursework requirements is not included here. All ECE undergraduate students take additional core courses in Human Development and Family Science (e.g. Infant and Child Development and Intellectual and Developmental Disabilities).**

Measures

Participants completed two measures (1) a brief demographic questionnaire regarding ECE courses completed, required field placements, and their experience working with children with developmental delays or disabilities, and (2) a modified version of the Teachers' Sense of Efficacy Scale-long form (TSES: Tschannen-Moran & Woolfolk Hoy, 2001; see Appendix A).

Preservice teachers' sense of efficacy.

The TSES is a 24-item instrument which measures the following efficacy constructs: student engagement, instructional strategies, and classroom management. The TSES has been widely used in research with both preservice teachers and teachers in the field (e.g., Ciyer, Nagasawa, Swadener, & Patet, 2010). Furthermore, the TSES has adequate construct validity, reliability, and factor analyses to support scoring of subscales and a total score (Tschannen-Moran & Woolfolk Hoy, 2001). To complete the TSES, participants were asked to choose from nine responses ranging from (1) None at All to (9) A Great Deal. Modifications were made to items in the TSES to better address the research questions. Specifically, the word "students" was replaced with the phrase "students with developmental delays/disabilities" throughout the measure (e.g., "how much can you do to help your students with developmental delays/disabilities value learning?").

Field experience in inclusive classrooms.

In order to determine the impact of field placement on ECE preservice teachers' efficacy, we first considered the level of inclusiveness within participants' field sites. Today's classrooms are diverse; this was evident as most field sites had classrooms with at least 1 or 2 children with

developmental delays or disabilities. Some schools and private programs purposely create classroom communities where many children with developmental delays or disabilities are integrated with their typically developing peers. The Rise School, which has merged into our University Child Development Laboratory, is one of them.

All of the participants surveyed had experienced one or more field placements in the following classrooms: the Rise School during the 2009-2010 academic year as a separate independent program; a University Child Development Laboratory accredited by the NAEYC; a Montessori pre-school during 2009-2011 academic years; and Rise School during the 2010-2011 academic years after joining the University Child Development Laboratory. Table 2 depicts the ratios of children with developmental delays or disabilities to typically developing children at the practicum sites. Classroom teachers from each field placement site identified the number of children with developmental delays and disabilities in their classroom.

Results

Due to the modifications made in wording on the TSES (i.e., "students with developmental delays/disabilities") internal consistency was analyzed. An initial analysis yielded a Cronbach's alpha coefficient of internal consistency of .98 for the Total Scale. Cronbach's alpha coefficient of internal consistency for the subscales were .94 for Efficacy in Student Engagement, .94 Efficacy in Instructional Strategies, and .93 for Efficacy in Classroom Management. In order to address missing data, a mean-value substitution was utilized to replace missing data for up to 13% of the TSES items on a scale.

Table 2. Ratios of children with and without developmental delays/disabilities.

Field Experience Site	Children with developmental delays/disabilities	Typically developing children	Percentage of children with developmental delays/disabilities
Rise school 2009-2010	10	8	55.55
2009-2010 university laboratory school	2	36	5.26
Montessori pre-school 2009-2011	3	42	6.66
Rise School merged into university laboratory school 2010-2011	13	55	19.18

Experience with children with developmental delays or disabilities and sense of efficacy

All participants were asked the following when completing the demographic questionnaire: "Do you have any non-course related experiences with children with developmental delays or disabilities? (e.g. a family member, volunteer or work experience, etc.) If so, please explain." These data were coded and analyzed independently by two of the researchers using the following 6 point Likert-type scale to quantify participant responses: 0 = no experience, 1 = minimal volunteer/work experience, 2 = moderate volunteer/work experience, 3=significant volunteer/work experience , 4 = moderate life experience & volunteer/work experience, 5 = significant life experience. The inter-rater reliability for coding was excellent at .97. Surprisingly, 52% of participants reported zero non-course related experience with children with developmental delays or disabilities. Furthermore, very few participants (4%) reported having a significant (e.g., sibling with developmental delay or disability) or even moderate (e.g., extended family member with developmental delay or disability) amount of *life experienc*e regarding children with developmental delays of disabilities. As Table 3 illustrates, participants had very little experience regarding children with developmental delays or disabilities outside of course work and field placements.

Preservice teachers sense of efficacy

We utilized the percentage of children with developmental delays or disabilities (see Table 2) to more accurately estimate how much direct field experience preservice teachers actually had with students with developmental delays or disabilities. Pearson's correlation coefficients were analyzed to determine the relationship between preservice teachers' direct field experiences with children with developmental delays or

disabilities and their sense of efficacy. Results indicated a significant positive relationship between practicum experiences with higher percentages of children with developmental delays or disabilities and total efficacy scores (r = .14, p = .04 1-tailed). Furthermore, these same practicum experiences were also significantly related to all three subscales: Efficacy in Student Engagement (r = .14, p = .04), Efficacy in Instructional Strategies (r =.14, p = .04), and Efficacy in Classroom Management (r = .13, p = .05). These results clearly indicate that preservice teachers who have more direct experience working with children with developmental delays or disabilities in their field placements have greater feelings of efficacy in relation to working with developmentally delayed or disabled children.

Implications and Closing Thoughts

We hypothesized that preservice teachers sense of efficacy with regards to addressing the needs of children with developmental delays or disabilities would increase as they spent more time in inclusive classrooms. The positive correlations within this study provide evidence that preservice teachers' sense of efficacy is not solely contingent upon the number of hours spent in inclusive settings, rather it is systematically related to the ratio of children with developmental delays or disabilities to typically developing peers in their field experience classrooms. In other words, classrooms with higher ratios of children with developmental delays or disabilities seem to provide more opportunities for teacher candidates to develop a stronger sense of efficacy.

The implications of this study are important because field placement is a crucial component to successful teacher preparation; therefore, this study informs teacher preparation programs concerned about the experiences students have In their practicum placements. We advocate for careful

Table 3. Participant experience regarding children with developmental delay or disabilities outside of course work and field experience.

	~ %	Example participant responses
0 = no experience	52 %	"Not very much" or left blank
1 = minimal volunteer/work experience	13%	"At my church nursery where I work there is a 4 year old boy with a speech delay."
2 = moderate volunteer/work experience	21%	"I worked at a dance studio and in my class I helped teach a young girl with developmental delays."
3=significant volunteer/work experience	9%	"My best friends' brother has Autism and I would watch him once or twice a week on top of seeing/interacting with him when his family is around."
4 = moderate life experience & volunteer/work experience	3%	"I volunteer with Special Olympics. Also, my aunt is 33, but mentally 8 years old, I spend a lot of time with her."
5 = significant life experience	1%	"My brother is severely disabled and I have worked in high school special education classroom."

placement of student teachers: considering how the mentor teacher can provide positive modeling and the diversity of the children in the classroom. In doing so, teacher educators have a higher probability of promoting preservice teachers' development of a strong sense of efficacy, which goes hand in hand with the commitment to diversity and inclusion our field values in early childhood professionals.

While it would be ideal for teacher educators to find placements with high percentages of children with developmental delays or disabilities, these programs are not always readily available. Teacher educators may want to also focus on identifying mentor teachers who model best practice interactions that the preservice teacher would want to emulate. Previous research also suggests pairing these experiences with reflective practices. Regardless of the ratio of children with disabilities teacher candidates can engage in guided reflection. Reflection should integrate preservice teachers' knowledge from coursework and individual needs of diverse early childhood learners. This integration includes thoughtful consideration of necessary supports, and modifications based on the needs of the child and etiology of his/her delay or disability.

As the demographics and needs of early childhood students continue to evolve, we are charged with the task of thoughtfully preparing teacher candidates. We believe examination of preservice teachers' efficacy is an excellent tool for measuring the strengths and weaknesses of our teacher education program and challenges us to continually evolve with the field.

There are some limitations to the study. According to NAEYC (2009), high-quality professional preparation requires supervised field experiences paired with guided reflection. While participants in this study reflected upon their experiences in the field as part of their coursework, how

much guided reflection took place or how much influence the reflection had on students' efficacy is beyond the scope of this study. While we recognize the limitations of this study, the findings indicate a need for further exploration of how the ratio of children with and without disabilities in a classroom impacts the preservice teacher sense of efficacy working with this population. Furthermore, future research should also address additional variables, such as, how reflective practices impact the development of efficacy.

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Appendix A: Teachers' Sense of Efficacy Scale-Modified (long form)

Directions:
This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities as they work with children with developmental delays/disabilities (DD). Please indicate your opinion about each of the statements below. Your answers are confidential.

Key:
Nothing=1; Very Little=3; Some Influence=5;Quite A Bit=7; A Great Deal=9

Teachers Beliefs	**How much can you do**								
1. How much can you do to get through to the most difficult students with developmental delays/disabilities?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2. How much can you do to help your students with developmental delays/disabilities think critically?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

3. How much can you do to control disruptive behavior of students with developmental delays/disabilities in the classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
4. How much can you do to motivate students with developmental delays/disabilities who show low interest in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
5. To what extent can you make your expectations clear about student behavior?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
6. How much can you do to get students with developmental delays/disabilities to believe they can do well in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7. How well can you respond to difficult questions from your students with developmental delays/disabilities?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
8. How well can you establish routines to keep activities running smoothly?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
9. How much can you do to help your students with developmental	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

delays/disabilities value learning?									
10. How much can you gauge students with developmental delays/disabilities comprehension of what you have taught?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
11. To what extent can you craft good questions for your students with developmental delays/disabilities?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
12. How much can you do to foster student with developmental delays/disabilities creativity?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
13. How much can you do to get children with developmental delays/disabilities to follow classroom rules?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
14. How much can you do to improve the understanding of a student with developmental delays/disabilities who is failing?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
15. How much can you do to calm a student with developmental delays/disabilities who is	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

disruptive or noisy?									
16. How well can you establish a classroom management system with each group of students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
17. How much can you do to adjust your lessons to the proper level for individualstudents with developmental delays/disabilities?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
18. How much can you use a variety of assessment strategies?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
19. How well can you keep a few problem students with developmental delays/disabilities form ruining an entire lesson?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
20. To what extent can you provide an alternative explanation or example when students with developmental	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

delays/disabilities are confused?