

DIMENSIONS The control of Early Years Candidates: Globalizing the Childhood

Encouraging Family Involvement in Math during the Early Years

Rurally Located Teacher Candidates: Globalizing the Early Childhood Social Studies Curriculum

Volume 45, Number 3, 2017

SMILE: Helping Children with Disabilities Make Friends in the Lunchroom

Lessons Learned While Hosting Butterflies: When Things Go Differently



Southern Early Childhood's Public Policy luncheon- 2018 Conference in lexington. KY



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Solidifying Our Villages: Addressing Opportunity and Achievement Gaps Through an Equity Lens

Poverty, race, religion, or zip code should not determine a child's trajectory, opportunity, and eventual life success. Addressing the achievement gap must go beyond gazing at test scores or blaming teachers, children and families. Focusing on the achievement gap without considering the root cause will only ensure that the gap will continue. This keynote will delve into how early education programs and systems can best serve children, families, and communities by dismantling barriers to opportunities. Discussion will focus on understanding and addressing inequities and biases in systems. With the goal to provide equitable opportunities for all, we will examine how current federal and local policies can be utilized to afford opportunities for those who have been marginalized. Participants will engage in deep reflection of the role they play in ensuring that young children and their families are provided with equitable opportunities to meet their potential, especially during the early years.

Bio

Iheoma U. Iruka Ph.D. is the Chief Research Innovation Officer and Director of the Center for Early Education Evaluation (CEEE) at HighScope Educational Research Foundation. In this role, Dr. Iruka leads research strategy to drive innovation in the field of early childhood education. Prior to joining HighScope, Dr. Iruka was the Director of Research and Evaluation at the Buffett Early Childhood Institute at the University of Nebraska and previously held the role of Associate Director at the Frank Porter Graham Child Development Institute at the University of North Carolina at Chapel Hill. Dr. Iruka's research focuses on determining how early experiences impact poor and ethnic minority children's learning and development, and the role of the family in education environments and systems. She is engaged in initiatives focused on how evidence-informed policies in early education can support the optimal development of low-income, ethnic minority, and immigrant children. Dr. Iruka is co-PI for a federally-funded project concentrated on identifying malleable factors that (a) support early learning in preschool through Grade 3 and (b) may be effective over time at closing the achievement gap for students who are disadvantaged. She has been dedicated to addressing how to ensure excellence for young diverse learners, especially Black children, through development of a classroom observation measure, public policies, and publications geared towards early education practitioners and policymakers.

Dr. Iruka earned a Ph.D. in applied developmental psychology from the University of Miami. She holds an M.A. in psychology from Boston University and a B.A. in psychology from Temple University. She is a current member of several national boards and committees, including National Academies of Sciences Study on Parenting and National Research Conference on Early Childhood.

Southern Early Childhood Association

Editor - Mari Cortez, Ph.D. Cover photo courtesy of Blossom Heights Child Development Center, Houston TX Design by RB Fine Art

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President's Message

Carol Montealegre

Get Ready...the Best Is Yet to Come

As Southerners, we welcome fall...happy to say "farewell" to the hot, steamy weather of summer. This summer, in particular, has been a perilous one having been besieged by treacherous hurricanes! Many of our friends and colleagues have suffered the destruction and havoc caused by Hurricanes Harvey, Irma and Maria. The Southern Early Childhood Association (SECA) extends prayers and encouragement to all in Texas, Louisiana, Florida, Georgia, Puerto Rico, and the many islands in the Caribbean. The people in these areas have suffered devastating losses and, now, are faced with the many challenges of recovery. I am a resident in Miami, Florida and, along with a host of others, am counting the days for hurricane season to be over! Although hurricane season does not end till November, I am hopeful that the worst is over; hurricanes fading and fall beginning.

As my term as President of SECA comes to an end, I think about the highlights of my two-year tenure; re-affiliation; uncoupling membership from the National Association for the Education of Young Children (NAEYC); providing a translated article in Dimensions for our Spanish speaking readers; Glenda Bean, our Executive Director for 18 years, retiring; and, Mark Polevoy coming on board as SECA's new Executive Director. Much has happened, but there is so much more to come as SECA moves forward; planning, and putting into motion, new and inspiring projects.

Several exciting endeavors are currently in the making. Some are in the 'design stage' and others almost ready to soon be unveiled...so...be on the look-out for more to come!

Last but, certainly not least, is SECA's upcoming 2018 Conference; Every Child Needs a Champion! Get out your calendar and save the dates, March 1-3, 2018. The conference will be held in the beautiful historic and exciting city of Lexington, Kentucky – home to spectacular green rolling hills, white fences, and beautiful race horses.

The 2017 Conference in Biloxi, Mississippi, focused on strategies to overcome generational poverty; a stark reality in many rural and urban communities in the South. As a follow up, the 2018 Conference theme is 'the achievement gap' - another taxing topic facing Southern educators. SECA is delighted to have two leading experts on the subject as Keynote Speakers; Maurice Sykes, Executive Director of the Early Childhood Leadership Institute, and Dr. Iheoma Iruka, Chief Research Officer of the HighScope Foundation. We look forward to seeing you in March!!

This is my last President's Message to the SECA Membership and it has truly been a pleasure and an honor to serve SECA in this capacity. I am extending a sincere "Thank you" all Members and fellow Board Members for affording me the opportunity to serve as SECA President. Now sit back and enjoy the outstanding selection of articles featured in this edition of Dimensions!

Carol C. Montealegre,

President



Words from the Editor

Dr. Mari Cortez

Editor's Note:

This semester I'm teaching a course on diversity in early childhood education. This is a great class to teach but it is not easy. The subject is complicated but it is highly needed. What we present on this issue of *Dimensions* is a glimpse of what diversity looks like in the context of our child care centers. We work with children who have exceptional needs, families who need and want to engage and children who are culturally and linguistically diverse. Of interest in these articles is that diversity is looked at from

a lens of respect and value just like it should always be. We hope that you find these articles of value in your diverse classroom.

Notas del Editor:

Este semestre estoy enseñando un curso sobre diversidad en la educación de la primera infancia. Esta es una gran clase para enseñar, pero no es fácil. El tema es complicado pero es muy necesario. Lo que presentamos en este número de Dimensions es un vistazo de cómo se ve la diversidad en el contexto de nuestros centros de cuidado infantil. Trabajamos con niños que tienen necesidades excepcionales, familias que necesitan y quieren participar y niños que son culturalmente y lingüísticamente diversos. De interés en estos artículos es que la diversidad se mira desde una lente de respeto y valor como debe ser siempre. Esperamos que encuentre estos artículos de valor en su aula diversa.

Best/Deseándoles lo mejor, Mari Riojas-Cortez, Ph.D. Editor

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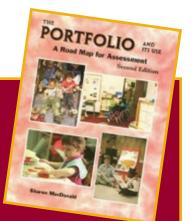
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Encouraging Family Involvement in Math during the Early Years

Involving families in mathematical learning is essential to young children and it is essential for early childhood educators to create opportunities for parents to become involved.

Jill M. Davis & Loreen Kelly

A significant amount of research has been published that supports family involvement in children's early learning (Epstein, 1995; Jeynes, 2012; LaRocque, Kleiman, & Darling, 2011). In the United States, the importance of parent involvement is so well accepted that it was written into education law, including an entire section in the No Child Left Behind Act or NCLB (2002). Although there are many examples of family involvement in literacy during the early years, parents are generally not as involved in their children's mathematical learning (Cannon & Ginsburg, 2008). Many barriers to family involvement exist, including:

- lack of mathematical knowledge (Kliman, 2006; Kliman, Jaumot-Pascaul, & Martin, 2013; Muir, 2012)
- negative feelings and anxiety about mathematics (Gunderson, Ramirez, Levine, & Beilock, 2012; Maloney, Ramirez, Gunderson, Levine, & Beilock, 2015; Vukovic, Roberts, & Wright, 2013)
- a focus on literacy over mathematics (Cannon & Ginsburg, 2008; Skwarchuk, 2009).

However, involving families in mathematical learning is essential to young children. Studies have demonstrated children whose parents are involved in their mathematical education benefit in engagement, achievement and attitude (Berkowitz, Schaeffer, Maloney, Peterson, Gregor, Levine & Beilock, 2015; Missall, Hojnoski, Caskie, & Repasky, 2015; Sheldon & Epstein, 2005; Sonnenschein, Metzger, & Thompson, 2016). Parents who help children become involved in meaningful activities can help create positive experiences (ESSO

Family Math, 2011; Kliman, 2006). Thus, it is essential for early childhood educators to create opportunities for parents to become involved in their children's mathematical learning.

The purpose of this article is to provide research-based ideas on how to encourage family involvement in mathematics with young children. Examples of ways that early childhood teachers can increase opportunities for at-school and at-home family engagement in their children's mathematical learning are described. The article also includes a resource list with websites and books that teachers can share with parents.

(Authors' note: The term parent is used throughout this article to refer to the primary caregiver responsible for a child's upbringing at home, which may include grandparents or other guardians. The term family is used to refer to the person or group of people who are in a child's home life.)

Opportunities for Family Involvement in Math At-School

There are two primary settings that can support family involvement in mathematics during the early years: the classroom and the home. Table 1 provides a summary of the research that supports at-school and at-home mathematics, along with specific strategies early childhood educators can use.

Family Math Nights

One key way that early childhood educators can encourage families to become involved with mathematics

Table 1: Strategies that Encourage Family Involvement At-School and At-Home

Activity	Strategy	
At-School Mathematics		
Math Buddies	Request parent volunteers to help small groups play math games during class time (Peters, 1998)	
	Ask parents to share hobbies with stu- dents that incorporate mathematics	
Family Math Nights	Integrated inquiry-based projects (Sullivan & Hatton, 2011)	
	Invite families to use math to create a dish and bring it to a potluck dinner (Kyle, McIntyre, & Moore, 2001)	
At-Home Mathematics		
Math Literature	Send home non-fictions books about math and storybooks with math-related problems	
	Distribute a list of books related to math that can be checked out from the local library	
Math Kits	Create math kits with clear, concise instructions and all materials necessary to complete activities related to number sense, patterns, shapes, seriation, classification, measurement, and graphing (Seo & Bruk, 2003)	
Math Backpacks	Develop self-contained, mobile learning centers that integrate math and science al- lowing families to explore specific themes and content through active, hands-on experiments (Kokoski & Patton, 1997)	
Math Newsletter	Send home a newsletter to explain ways that parents are already incorporating mathematics in the early childhood class- room	

at school is through Family Math Nights. At Family Math Nights, children and their parents come together to investigate mathematical concepts through active, hands-on explorations. Some Family Math Nights are only for the child and their parents, while others have activities for the entire family, including older and younger siblings.

Some Family Math Nights have a variety of centers or stations that include several mathematical concepts. Others focus on one activity or math concept. The format of Family Math Nights might differ depending on the teacher, grade level, or school. However, the objective of every Family Math Night is the same: to support mathematical learning.

Supporting mathematical learning can be accomplished in three different ways:

- 1. helping families gain a better understanding of math curriculum
- 2. fostering positive attitudes about math
- 3. linking what the children are learning in the classroom to the home (Lopez & Donovan, 2009; Taylor-Cox, 2005).

Helping families to gain a better understanding of math curriculum is the first way that Family Math Nights support mathematical learning. Family Math Nights can be engaging while helping parents understand the math curriculum. Sullivan and Hatton (2011) described inquiry-based lessons that integrated math and science and offered opportunities for families to learn about topics in-depth.

Early childhood educators must create opportunities for parents to be involved.

One example was an activity that challenged children and their families to build a tower out of sticks and marshmallows that would be able to hold a plate of cookies. Families used a variety of mathematical concepts, including geometry, measurement, and balance, in order to be successful in this challenge. Each family worked together to come up with a possible solution and created a model to test their solution. Teachers and trained volunteers acted as facilitators during the

inquiry, asking questions and making suggestions. A whole-group summary at the end of the night related the investigation to the standards the children were learning in the classroom. This helped parents understand more about the mathematical curriculum in a hands-on, active way.

Family Math Nights can also go a long way in fostering positive attitudes about mathematics (Lopez & Donovan, 2009). As early childhood teachers model, facilitate, and guide families through appropriate mathematical activities, parents become more comfortable with engaging their children in math. There is even some evidence that this comfort level can lead to decreases in math anxiety (Furner & Berman, 2003). When their math anxiety decreases and comfort level increases, parents are likely to have and to display positive attitudes about math. These positive attitudes are the precursors to positive learning dispositions or habits of thoughts and actions (Da Ros-Voseles & Fowler-Haughey, 2007). As parents engage their children in solving challenging mathematical problems at Family Math Nights, they demonstrate and encourage positive dispositions such as curiosity, flexibility, resourcefulness, and persistence. These attitudes and, eventually, dispositions are another positive contribution of Family Math Nights.

> Family Math Nights support mathematical learning.



The use of manipulatives helps young children to understand mathematical concepts.

Additionally, Family Math Nights can help parents link what the children are learning in the classroom to learning in the home. Early childhood educators have the unique opportunity to model appropriate math-related activities and behaviors. They can help parents understand math as a way to solve real-world problems.

An example of a Family Math Night that linked school and home involved cooking (Kyle, McIntyre, & Moore, 2001). Each family brought a potluck dish that the children had been involved in making. Primaryaged children and their parents engaged in reading fractions, developing part-to-whole relationships, and measuring during the cooking process. Once at school, children helped to sort the dishes into categories, including appetizers, main dishes, side dishes, and desserts.

Afterward, families were given a book containing all the recipes of the dishes prepared by the families. They were also given multistep problems to solve at home using the recipes from the book. For example, when given a list of the amount butter required for each recipe, families had to figure out how many combinations of desserts they could make with 1 ½ cups of butter. In this way, families engaged in math at home (when cooking), at school (by sorting), and at home again (solving problems from the recipe book).

Math Buddies

Another way that early childhood educators can provide opportunities for parents to become involved in math activities is to invite them to become "Math Buddies" and volunteer to help students with math during the school day. Peters (1998) described two studies that involved parents of children ages five and seven coming to the classroom to play math games with small groups of children. By using math materials in a setting with a teacher as the guide, parents became more confident about effectively engaging children in math. The small group that parents facilitated did not necessarily include their own child, as the study was not intended to provide parent education. However, parents reported that the facilitated game sessions gave them ideas of ways to help their children at home.

Activities used with Math Buddies can go beyond math games. Math Buddies can share their hobbies that incorporate mathematics with the students. For example, a Math Buddy who sews can help students design and create their own quilts out of paper or scraps of materials. When planning the quilt, children can identify characteristics of shapes, including the number of sides and corners. They will learn about fractions and measurement as they cut

Table 2: Commonly Found or Recycled Materials to Promote **Mathematical Concepts**

Mathematical Concept	Objects
Number Sense (one to one correspondence, counting, addition, subtraction, etc.)	rocks, coins, buttons, milk lids, shells, beads, sticks, cotton balls, flowers, decorative gems, poker chips
Patterns	soda/water bottle lids, small pieces of yarn, colored paper strips, nuts & bolts, beans and seeds, artificial flowers, socks, plastic animals
Sorting	old keys, cookie cutters, pom pom balls, leaves, rocks, leaves, barrettes, marker lids, sequins, craft jewels
Measuring	paper clips, pipe cleaners, yarn, pen- cils, drinking straws, coffee stirrers, unsharpened pencils, plastic worms, craft sticks

the paper or material. Students will explore geometric transformations, including rotations, reflections, and translations, as they turn, flip, and slide the pieces of the quilt. Other hobbies, such as carpentry, cooking, and gardening, can allow Math Buddies to share ways that mathematics is integrated into everyday activities.

Use commonly found or recycled materials as manipulatives.

Opportunities for Family Involvement in Math At-Home

Opportunities for involvement at home is important, as family involvement in home-based activities has been shown to predict greater academic achievement than other

types of involvement (Halgunseth, Peterson, Stark, & Moodie, 2009; Harris & Goodall, 2008). Kokoski and Downing-Leffler (1995) described three advantages to establishing connections between home and school during the early years. First, a significant part of young children's education is due to the influence of family and the home environment. Second, academic activities done at home promoted academic achievement at school. Finally, the child's self-esteem is affected by positive academic interactions at home. It is essential that early childhood educators go beyond providing opportunities for parents to become involved just at school. They must also promote family involvement in mathematics at home.

Early childhood educators generally have little control over children's home environments. However, there are ways that teachers can add to the home environment that encourage involvement in math.

Sending Home Materials

One way is to provide families with resources that encourage mathematical thinking. Not all families have access to mathematical materials. Cai (2003) found that only about 30% of parents studied bought math-related books for their children. Teachers can send home non-fiction books about math, storybooks with math-related questions, or lists of books that families can check out from the library.

Teachers can also send home math materials such as connecting cubes, pattern blocks, attribute blocks, and counters for families to use. It is necessary to note that math materials from the teacher supply catalog should be used with caution. Some parents might not know what to do with certain materials. The use of unfamiliar or expensive math materials might discourage parents from being involved in their child's math at home (Keyser, 2006).

Teachers should provide families with opportunities to use store bought materials during open house, conferences, or Family Math Nights so the parents become comfortable with math materials. Using commonly found or recycled materials as manipulatives may also help parents feel comfortable and give them ideas for other accessible items that can be used for math at home. *Table 2* includes ideas of commonly found or recycled materials that can be used to promote mathematical concepts.

Creating Homework Kits

Homework is another way that families can be involved in their children's mathematical learning. In a cross-national study on parental roles in mathematics, about 55% of U.S. parents reported regularly checking their children's homework (Cai, 2003). When math homework

involves a passive activity, such as a worksheet, parents have little incentive to become actively involved in their children's mathematical learning (Kohn, 2007). Teachers at an early childhood center in Wisconsin took a unique approach to homework by developing math homework kits (Seo & Bruk, 2003). Parents had been requesting worksheets to help their children with basic skills in mathematics. The teachers, understanding this did not align with developmentally appropriate practices, instead created activities that supported children's learning of math concepts including number sense, patterns, shapes, seriation, classification, measurement, and graphing. The kits included clear, concise instructions and all materials necessary to complete the activities. In addition to increasing opportunities for children to participate in high-quality activities, the teachers wanted the children to help their parents become familiar with the math content that they were learning at school. They reasoned this would help parents better promote mathematical learning in other contexts at home. In fact, parents began to talk more to teachers about their children's mathematical learning. The math kits provided a home-school connection that not only increased the children's mathematical knowledge but also bolstered math understanding of their families.

Providing Take-Home Bags or Backpacks

Take-home bags or backpacks can also foster mathematical learning at home. Kokoski and Patton (1997) described a backpack system that integrated math and science into meaningful activities. These selfcontained, mobile learning centers offered families the opportunity to explore specific themes and content through active, hands-on experiments. The experiments were openended and required families to work together to investigate scientific concepts using meaningful math.

In one activity, *Rainbow Stew*, the children used measurement and sequencing to create a substance out of cornstarch and sugar that encouraged exploration of color mixing. In addition to using math as a tool in the context of science, the backpacks helped children and their parents realize that they could do math at home in meaningful ways.

Build partnerships with families.

The activities in take-home bags do not have to be expensive. A teacher-created set of paper tangrams can substitute for a commercially purchased set. Items found in nature, such as sticks and rocks, can be used as counters. With some creativity, early childhood educators can put together a set of rotating take-home bags to send home with the children in their class.

Identifying Indirect Mathematical Experiences

Finally, early childhood educators can help families understand how they are already engaging their children in mathematics at home. Family involvement with math need not occur through direct experiences that are meant just for math. Math can occur in the context of



everyday activities (ESSO Family Math, 2011). For example, when they play card games, children build number recognition skills. They practice classification as they sort the silverware when helping empty the dishwasher. When they follow a nighttime routine of taking a bath, brushing their teeth, reading a story, and going to sleep, children demonstrate an understanding of sequence and order. There is a strong relationship between the frequency that families engage in these indirect mathematical activities and children's mathematical proficiency (LeFevre, Skwarchuk Smith-Chant, Fast, Kamawar & Bisanz, 2009). It is essential that early childhood educators help parents realize that math goes beyond just numbers and counting.

Experiences at home should include a wide range of mathematical concepts and skills. Sending home newsletters and talking to parents about these experiences can help them to understand they are already engaging their children in mathematics.

Conclusion

Early childhood educators have the responsibility to provide opportunities for families to be involved in their children's mathematical learning at school and at home. Although there are some challenges, the benefits, including increased achievement and positive attitudes about math, are too great for teachers to ignore. There are many opportunities to engage families in

promoting mathematical learning at both school and at home. The ideas given in this article are just a few examples of how to accomplish this. It's important to remember that just as each child is unique, so are each of the families, therefore each family's involvement may be different. It is essential for early childhood educators to build partnerships with families so each child in their care has the greatest opportunities for success.

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Rurally Located Teacher Candidates: Globalizing the Early Childhood Social Studies Curriculum

This article provides a description, analysis, and practical ideas for globalizing social studies methods course experiences of rurally located teacher candidates in order to develop teachers who value world perspectives and embrace diverse populations.

Sara Hartman

"Who is Malala Yousafzai?" "Is she the girl I saw on Ellen?" These were the most common questions I received when I introduced I Am Malala: How One Girl Stood Up for Education and Changed the World (Young Readers' Edition) (Yousafzai & McCormick, 2014) as a required text in my early childhood social studies methods course. The inclusion of the text was part of a globalization effort designed to aid teacher candidates in planning a curriculum that fosters real-world connections that are relevant and applicable in a global context. Thankfully, today's teacher candidates have greater awareness of ethnic diversity both in America and around the world (Castro, 2010). Despite this, research reveals that teacher candidates still subscribe to a "melting pot" philosophy of color blindness in their approach to cultural diversity, failing to recognize the significance of race and ethnicity in their curricular planning (Sleeter, 2008). In order to become teachers who value world perspectives and embrace diverse populations and viewpoints, teacher candidates need opportunities to explore global perspectives and need significant exposure to culturally responsive pedagogy (Castro, 2010).

As Ohio University is rurally located and ethnic and racial diversity in clinical placements is typically scarce, attention to global perspectives is particularly important. A study of I Am Malala (Yousafzai & McCormick, 2014) became the jumping off point for a globalization unit that examined Muslim culture and traditions within my early childhood social studies methods course. This article provides a description, analysis, and practical ideas for globalizing social studies methods course experiences of rurally located teacher candidates and explains how

doing so may create a spillover effect in early childhood classrooms.

Globalization in a Rural Area

Founded in 1804, Ohio University, located in southeastern Athens, Ohio, is home to approximately 20,000 undergraduate and graduate students, including over 400 Early Childhood Education majors. Southeastern Ohio falls within the Appalachian region and is decidedly rural (Appalachian Regional Commission, 2008; Gjelton, 1982). As the most economically depressed area in the state (United States Census Bureau, 2014), rural southeastern Ohio provides early childhood teacher candidates experiences with economic diversity but lacks access to other forms of diversity. Although, teacher candidates travel 70 miles to spend time in urban classrooms in their sophomore year, the majority of their significant clinical hours are spent in rurally located schools in southeastern Ohio. Due to their rural location, these schools, while very economically diverse, are predominately populated by White children from families of Christian faiths (U.S. Census Bureau, 2014).

The vast majority of Ohio University's early childhood teacher candidates, as well as teacher candidates nationally, also fit this demographic (Zumwalt & Craig, 2005). Additionally, nearly 19% of American children attend rural public schools (Showalter, Klein, Johnson, & Hartman, 2017), and these children need teachers to help them place themselves in both a local and global context. These statistics create a heightened need for rurally located teacher candidates to have diverse and globally

focused experiences in their teacher preparation programs.

Facilitating a Globalized Social Studies Curriculum

Social studies is the integrated study of the social sciences and humanities with a focus on promoting civic competence, which as a school subject brings together the study of geography, history, civics, anthropology, sociology, and economics (Maxim, 2014). At first glance, these topics seem to naturally align themselves to a globalized view of the social studies curriculum. However, teacher candidates often begin class with a very narrow view of what social studies is, as well as limited exposure to experiences that are outside their identified culture (Sleeter, 2008). A globalized focus within an early childhood social studies methods course is a logical place to provide teacher candidates with greater exposure to world cultures, infrastructures, and the events that are changing the world and to promote greater understanding of the interconnectedness of these things. Teachers often teach what they know about and topics with which they personally identify, so an expanded view of world context has the potential to significantly impact their choices of curricular content (Castro, 2010). The practices detailed in this article were essential for globalizing my early childhood social studies methods course.

Examine Personal Biases

As implicit biases impact curricular planning, instruction, and assessment, an examination of personal beliefs is essential for teacher candidates (Clark & Zygmunt, 2014). In light of current world events,

this was especially critical in a unit of study about Muslim culture and traditions. To begin, it was necessary for teacher candidates to examine their prior knowledge of the Middle East, Muslim culture, and Islamic faith. Many White teacher candidates have a hard time identifying characteristics of their own culture (Sleeter, 2008), so asking them to examine their beliefs about Muslim cultures was challenging. Not surprisingly, only a handful of my teacher candidates could locate Pakistan on the map, knew the names or purposes of Muslim clothing, or understood anything about the Islamic faith. Virtually no teacher candidates understood the difference between Muslim and Islam or had examined their own bias related to either term. Given their lack of knowledge and personal biases that emerged, it became clear there was a need for this focus within my course. To begin, it was essential that I modeled and facilitated personal buy-in and interest in studying the topic.

Enthusiasm is both contagious and compelling.

Generate Enthusiasm for New Cultural Content

Modeling can generate enthusiasm for new cultural content. As any teacher knows, enthusiasm is both contagious and compelling. Though this may seem obvious, instructors of teacher candidates should be mindful of this as they introduce potentially unfamiliar and intimidating topics to their teacher candidates. Additionally, just as young children

benefit from a "hook" at the start of a unit of study, so too do teacher candidates. As an introduction to I Am Malala (Yousafzai & Mc-Cormick, 2014), I began by asking my teacher candidates to describe someone they found to be personally inspiring and asked them to describe the characteristics that engendered those feelings. Utilizing technology as a "hook" is another effective technique, which makes historical figures or time periods come alive (Scott, Parr, & Richardson, 2008). Technology may include photos, sound recordings, or videos, though in the case of my teacher candidates, it was actual footage of Malala Yousafzai speaking in various settings. These beginning activities became the impetus for piquing student interest and igniting motivation for continued learning.

Utilize Relevant Literature from Respected Sources

As children's literature is an accepted learning tool across all content areas, utilizing literature provides a logical and relevant avenue for discussing culturally relevant global topics. Today, there is unprecedented diversity available in children's literature, with virtually no topic out of reach. The value of this abundant literature now available for children is unquestioned in the research literature (McClure, Garthwait, & Kristo, 2015; Russell, 2015). As a way to spur discussion and inquiry about global topics, instructors should choose relevant literature from respected authors (Mankiw & Strasser, 2013). Literature provides an excellent source for starting challenging discussions, especially for engaging in initial conversations (Mankiw & Strasser, 2013). For my teacher candidates, reading and discussing relevant children's literature

about Muslim people, culture, and traditions was essential in engaging them in globalizing the social studies curriculum (see Figure 1 for representative children's literature).

Create Hands-on and Interactive Experiences

An early childhood social studies course should also be hands-on and interactive (Mindes, 2015). Instructors may globalize their curriculum by facilitating hands-on social studies experiences that invite teacher candidates to experience new cultures and content in a personal way. For example, while they were reading I Am Malala (Yousafzai & McCormick, 2014), early childhood teacher candidates experimented with the ancient art form, Henna, and sampled dates and chai tea during book discussions. It is also important to involve teacher candidates in other meaningful interactive experiences that provide them with opportunities to engage with diverse populations. These include inviting speakers to share personal and professional experiences, arranging informal learning opportunities to art exhibits, natural history displays, live performances, or to explore library collections, and encouraging teacher candidates to attend cultural events within the university or local communities.

Facilitate Frequent Discussions about New Content

While reading I Am Malala (Yousafzai & McCormick, 2014), teacher candidates engaged in weekly book club meetings about a variety of topics designed to challenge their biases. Teacher candidates were asked questions such as, "What rights or freedoms do you most value?" After citing such things as, "freedom of

Figure 1. Five Relevant Picture Books about Muslim People, Culture, and Traditions

For the Right to Learn: Malala Yousafzai's Story, 2016 By Rebecca Langston-George, Illustrated by Janna Bock

This book tells the story of Malala Yousafzai, a young Pakistani girl of Muslim descent, who became a world-wide advocate for girls' education. As the youngest ever recipient of the Nobel Peace Prize, Malala's story is one of resilience, courage, and equality that is relevant for children of all ages.

Golden Domes and Silver Lanterns: A Muslim Book of Colors, 2012 By Hena Khan, Illustrated by Mehrdokht Amini

Using a rainbow of colors for symbolism, this book uses colors to explore the Muslim culture. From orange henna to a blue hijab, children learn the significance of common objects and traditions in the Muslim world.

Nasreen's Secret School: A True Story from Afghanistan, 2009 Written and Illustrated by Jeanette Winter

After Taliban soldiers take her parents, Nasreen, a young Afghan girl, is despondent. Despite the risks, Nasreen's grandmother enrolls her in a secret school for girls. Told in simple language, this true story illuminates the power that education has for awakening dreams and aspirations.

The Best Eid Ever, 2007 By Asma Mobin-Uddin, Illustrated by Laura Jacobsen

During an Eid celebration at her local prayer hall, Aneesa befriends two girls. Noticing their poorly fitting clothing, Aneesa discovers that both girls are refugees from a war-torn country. With the help of her grandmother, Aneesa plans a way to help her new friends have the best Eid ever.

Under the Ramadan Moon, 2008 By Sylvia Whitman, Illustrated by Sue Williams

With a beautiful moon for reference, this book describes customs and traditions related to the Muslim holiday of Ramadan. The ninth month in the Islamic calendar, Ramadan is the holiest month for Muslims.

speech, access to information, and wearing what we want," candidates encountered questions that made them explore and reflect upon such things as, "How are these freedoms impacted by race, ethnicity or religion?" and "How do you reconcile Malala's assertion that female immodesty is a violation of women's rights?" Questions such as, "How will you celebrate holidays in your classroom?" led to conversations about ways to value and recognize

the variety of religious holidays that children celebrate, as well as ways to respect the rights of children who celebrate no holidays. Discussions prompted dialogue about what topics are appropriate and relevant for children in early childhood classrooms with conversations ranging from worldwide access to quality education and ethnic stereotypes to terrorism and recent world events. Just as there is no agreed upon world opinion about these topics, there

was rarely a group consensus reached during book club meetings. Despite this, discussions were valuable learning experiences that allowed teacher candidates to consider the early childhood social studies curriculum from multiple global perspectives.

Follow Candidates' Lead for Future Investigations

Instructors should be open to teacher candidates' suggestions for future discussions and investigations about globally relevant topics. When He Named Me Malala (Parkes, MacDonald, & Guggenheim, 2015), a documentary about Malala's life, failed to come to our rurally located theater, teacher candidates in my social studies course suggested that

our class go see Suffragette (Owen, Ward, & Gavron, 2015), a film about the British suffrage movement at the turn of the 20th century. Students saw this as an extension of our discussions about the rights of women in Muslim culture and made meaningful connections to the history of women's rights across the globe. A standard project for a social studies methods course is the planning of a social studies unit. This time, however, teacher candidates created self-chosen units of study from relevant global topics, such as communities, food insecurity, and human consumption (Photo 1). As part of these units, teacher candidates placed significant emphasis on helping children make local and global connections within the unit's

social studies content. For example, in a unit about human consumption, two teacher candidates explored the need for clean water and the impact of global water shortages on the lives of children.

Encourage Candidates to Apply What They Learn

Teacher candidates should be encouraged to utilize and apply global concepts within their clinical placements (Photo 2). Encouraging teacher candidates to think about the application of new global content may continue to break down stereotypes identified during initial discussions of personal bias. The study of I Am Malala (Yousafzai & McCormick, 2014) led to additional



Early childhood teacher candidates engage in a globally focused hands-on activity that encourages personal reflection.

Photo courtesy of the autho



An early childhood teacher candidate applies globally focused social studies content in her 3rd grade clinical placement site.

investigations about women's rights across the globe and spurred discoveries of children's literature about women's rights. For example, teacher candidates discovered books such as Elizabeth Leads the Way: Elizabeth Cady Stanton and the Right to Vote (Stone & Gibbon, 2008) and Nasreen's Secret School: A True Story from Afghanistan (Winter, 2009) and used them within their clinical placement sites to facilitate discussions about women's rights. These experiences generated continued excitement about global topics, which

helped further their personal buy-in about the importance and need for a globalized view of the early childhood social studies curriculum.

Suggestions for Practicing Early Childhood Educators

The strategies described in this article may also be applied for use with licensed early childhood educators who are already working in classroom settings. Teachers, especially those located in rural settings or who teach in areas without diverse

populations, may adopt these strategies as a means to globalizing the social studies curriculum for their young learners. An examination of personal bias, emphasis on handson social studies activities, and use of relevant literature are all essential tools for introducing globally focused content to young children. In particular, with interest from a small group of teachers, or even one willing partner, forming a book club similar to the ones described in this social studies methods course is a worthwhile practice for teachers who want to globalize their social studies curriculum. Through shared commitment to growth and exploration, book conversations are possible before or after school, during common planning time and/or lunch breaks, on professional development days, or even during a social outing to a restaurant. Teachers' assignments for book club meetings can be as simple as staying current on the reading or as involved as bringing discussion questions, short activities, picture book connections, and/or information about cultural traditions and customs. Engaging in this type of collaborative professional development provides a meaningful way for teachers to explore new and thoughtprovoking content and gives teachers the opportunity to implement relevant pedagogical and instructional changes (Burbank & Kauchak, 2010). Ultimately, it is young learners who will benefit from their teachers' efforts to provide a more globalized social studies curriculum.

Change the world, one child, one classroom at a time.

Final Thoughts

Globally focused discussions in early childhood social studies methods courses may cover content beyond the developmental scope of young children, yet conversations and experiences of a globalized curriculum may help broaden teacher candidates' outlook on world issues and views of appropriate social studies content for young children. Quite significantly, Malala Yousafzai said in a speech to the United Nations, "One child, one teacher, one book, and one pen can change the world" (Yousafzai & McCormick, 2014, p. 192). Rurally located teacher candidates need globalization opportunities that prepare them to change the world, one child, one classroom at a time. Given the current culture of fear of diverse ethnicities in America, it is unlikely that personal bias was erased as a result of the globalization effort described in this article. However, without a doubt, teacher candidates decided that discussions about Muslim culture and women's rights around the world have a place in an early childhood classroom. Additionally, adopting a globalized focus may give teacher candidates and practicing early childhood teachers the prior knowledge necessary to continue globally focused curricular investigations. Surely, teacher candidates will encounter children from diverse racial and ethnic groups within their future classrooms, and undoubtedly their students will live in a world that must learn to value and recognize differences. Consequently, for teacher candidates in rural locations, globalization efforts should be essential components of teacher preparation programs.

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Candidatos Docentes en Zonas Rurales: Globalizando el Currículo de Estudios Sociales de la Primera Infancia

Este artículo proporciona una descripción, análisis e ideas prácticas para globalizar los cursos de pedagogía de los estudios sociales que proporcionan experiencias de campos a los candidatos a maestros ubicados en zonas rurales a fin de desarrollar profesores que valoran las perspectivas del mundo y abrazan a diversas poblaciones.

Sara Hartman

"¿Quién es Malala Yousafzai?" "¿Es ella la chica que vi en Ellen?" Estas fueron las preguntas más comunes que recibí cuando presenté el libro Yo Soy Malala: La Jóven que Defendió el Derecho a la Educación y fue Tiroteada por los Talibanes (Edición de los lectores jóvenes) (Yousafzai y McCormick, 2014) como un texto requerido en mi curso de métodos de estudios sociales en la primera infancia. La inclusión del texto fue parte de un esfuerzo de globalización diseñado para ayudar a los candidatos docentes en la planificación de un currículo que fomenta las conexiones del mundo real que son pertinentes y aplicables en un contexto global. Afortunadamente, los candidatos docentes de hoy tienen una conciencia mayor de la diversidad étnica tanto en América como en todo el mundo (Castro, 2010). A pesar de esto, la investigación revela que los candidatos a docentes todavía suscriben a una filosofía del "melting pot" en donde todas las culturas se funden y crea un desenfoque de la diversidad cultural, y no reconocen la importancia de la raza y la etnicidad en su planificación curricular (Sleeter, 2008). Para convertirse en docentes que valoran las perspectivas del mundo y abarcan diversas poblaciones y puntos de vista, los candidatos docentes necesitan oportunidades para explorar las perspectivas globales y necesitan una exposición significativa a la pedagogía culturalmente responsable (Castro, 2010).

Como la Universidad de Ohio se localiza en una zona rural y la diversidad étnica y racial en las escuelas es típicamente escasa, la atención a las perspectivas globales es particularmente importante. Un estudio del libro Yo Soy Malala (Yousafzai & McCormick, 2014) se convirtió en el punto de partida para una unidad de globalización que

examinó la cultura y las tradiciones musulmanas dentro de mi curso de métodos de estudios sociales en la primera infancia. Este artículo proporciona una descripción, análisis e ideas prácticas para globalizar las experiencias de los cursos de métodos de estudios sociales de los candidatos a docentes ubicados en zonas rurales y explica cómo hacerlo puede crear un efecto de desbordamiento en las aulas de la primera infancia.

La Globalización en una Zona Rural

Fundada en 1804, la Universidad de Ohio, ubicada en el sureste de Atenas, Ohio, es el hogar de aproximadamente 20,000 estudiantes de pregrado y posgrado, incluyendo más de 400 en la licenciatura de Educación Infantil. El sudeste de Ohio se encuentra dentro de la región de los Apalaches y es decididamente rural (Appalachian Regional Commission, 2008; Gjelton, 1982). Como la zona económicamente más deprimida del estado (Oficina del Censo de los Estados Unidos, 2014), el sureste rural de Ohio ofrece experiencias a los maestros de la primera infancia con diversidad económica pero carece de acceso a otras formas de diversidad. Aunque, los candidatos de docentes viajan 70 millas para pasar el tiempo en aulas urbanas en su segundo año, la mayoría de sus horas clínicas significativas se pasan en escuelas rurales en Ohio suroriental. Debido a su ubicación rural, estas escuelas, aunque muy diversas económicamente, son predominantemente pobladas por niños blancos de familias de creencias cristianas (Oficina del Censo de los EE.UU., 2014).

La gran mayoría de los candidatos docentes de la primera infancia de la Universidad de Ohio, así como los candidatos docentes a nivel nacional, también se ajustan a esta demográfica (Zumwalt & Craig, 2005). Además, cerca del 19% de los niños estadounidenses asisten a escuelas públicas rurales (Showalter, Klein, Johnson y Hartman, 2017), y estos niños necesitan maestros para ayudarles a situarse en un contexto local y global. Estas estadísticas crean una mayor necesidad de los candidatos docentes ubicados en zonas rurales para tener experiencias diversas y globalmente centradas en sus programas de preparación del docente.

Facilitando un Currículo de Estudios Sociales **Globalizados**

Los estudios sociales son el estudio integrado de las ciencias sociales y las humanidades con un enfoque en la promoción de la competencia cívica, que como materia escolar reúne el estudio de la geografía, la historia, la cívica, la antropología, la sociología y la economía. A primera vista, estos temas parecen alinearse naturalmente con una visión globalizada del currículo de estudios sociales. Sin embargo, los candidatos docentes a menudo comienzan la clase con una visión muy estrecha de lo que son los estudios sociales, así como una exposición limitada a experiencias que están fuera de su cultura identificada (Sleeter, 2008). Un enfoque globalizado dentro de un curso de métodos de estudios sociales de la primera infancia es un lugar lógico para proporcionar a los candidatos docentes una mayor exposición a las culturas del mundo, las infraestructuras y los eventos que están cambiando el mundo y promover una

mayor comprensión de la interconexión de estas cosas. Los maestros a menudo enseñan lo que conocen y los temas con los que se identifican personalmente, por lo que una visión ampliada del contexto mundial tiene el potencial de impactar significativamente sus opciones de contenido curricular (Castro, 2010). Las prácticas detalladas en este artículo fueron esenciales para globalizar mi curso de métodos de estudios sociales en la primera infancia.

El entusiasmo es a la vez contagioso y convincente.

Examinar Prejuicios Personales

Como los prejuicios implícitos afectan la planificación, instrucción y evaluación curricular, un examen de las creencias personales es esencial para los candidatos a docentes (Clark y Zygmunt, 2014). A la luz de los acontecimientos mundiales actuales, esto fue especialmente crítico en una unidad de estudio sobre la cultura y las tradiciones musulmanas. Para empezar, era necesario que los candidatos docentes examinaran sus conocimientos previos sobre el Medio Oriente, la cultura musulmana y la fe islámica. Muchos candidatos docentes que son blancos tienen dificultades para identificar las características de su propia cultura (Sleeter, 2008), por lo que pedirles que examinen sus creencias sobre las culturas musulmanas era un reto. No es sorprendente que sólo un puñado de mis estudiantes docentes pudieran ubicar a Pakistán en el mapa, conocieran los nombres o propósitos de la ropa musulmana o entendieran

algo acerca de la fe islámica. Prácticamente ningún candidato docente comprendía la diferencia entre musulmán e islam o había examinado su propio prejuicio relacionado con cualquiera de los dos términos. Debido a su falta de conocimiento y prejuicios personales que surgieron, se hizo evidente que era necesario este enfoque dentro de mi curso. Para empezar, era esencial que modelara y facilitara la comprensión personal y el interés en estudiar el tema.

Generar Entusiasmo por **Nuevos Contenidos** Culturales Modelándolos

Como cualquier maestro sabe, el entusiasmo es a la vez contagioso y convincente. Aunque esto puede parecer obvio, los instructores de los candidatos docentes deben ser conscientes de como introducir temas potencialmente desconocidos e intimidantes a sus candidatos docentes. Además, al igual que los niños pequeños se benefician de un "gancho" al inicio de una unidad de estudio, también lo hacen los candidatos docentes. Como introducción al libro Yo Soy Malala (Yousafzai y McCormick, 2014), comencé pidiendo a mis candidatos docentes que describieran a alguien que consideraban inspirador y les pedían que describieran las características que engendraron esos sentimientos. Utilizar la tecnología como un "gancho" es otra técnica eficaz, qya ue hace que las figuras históricas o los períodos de tiempo tengan vida (Scott, Parr, & Richardson, 2008). La tecnología puede incluir fotos, grabaciones de sonido, o videos, aunque en el caso de mis candidatos docentes, era imágenes reales de Malala Yousafzai hablando en diversos escenarios. Estas actividades iniciales se convirtieron en el ímpetu para despertar el interés del estudiante y encender la motivación para el aprendizaje continuo.

Utilizar la Literatura Relevante de Fuentes Respetadas

Como la literatura de los niños es una herramienta de aprendizaje aceptada en todas las áreas de contenido, el uso de la literatura proporciona una vía lógica y relevante para discutir tópicos globales culturalmente relevantes. Hoy en día, hay una diversidad sin precedentes disponible en la literatura infantil, con virtualmente ningún tema fuera de alcance. El valor de esta abundante literatura ahora disponible para los niños es incuestionable en la literatura de investigación (McClure, Garthwait, & Kristo, 2015; Russell, 2015). Como una manera de estimular la discusión y la investigación sobre temas globales, los instructores deben elegir la literatura relevante de autores respetados (Mankiw & Strasser, 2013). La literatura proporciona una excelente fuente para comenzar discusiones desafiantes, especialmente para participar en conversaciones iniciales (Mankiw & Strasser, 2013). Para mis estudiantes docentes, la lectura y discusión de la literatura infantil relevante sobre el pueblo, la cultura y las tradiciones musulmanas era esencial para atraerlos a la globalización del currículo de estudios sociales (ver Figura 1 para la literatura infantil representativa).

Crear Experiencias Prácticas e Interactivas

Un curso de educación social en la primera infancia también debe ser práctico e interactivo (Mindes, 2015). Los instructores pueden globalizar su currículo al facilitar experiencias prácticas de estudios sociales que invitan a los candidatos a profesores a experimentar nuevas

Figura 1. Cinco libros de imágenes relevantes sobre el pueblo, la cultura y las tradiciones musulmanas

For the Right to Learn: Malala Yousafzai's Story, 2016 Por Rebecca Langston-George, Ilustrado por Janna Bock

Este libro cuenta la historia de Malala Yousafzai, una joven pakistaní de ascendencia musulmana, que se convirtió en un defensor mundial de la educación de las niñas. Como la más joven receptora del Premio Nobel de la Paz, la historia de Malala es una de resiliencia, valentía e igualdad que es relevante para los niños de todas las edades.

Golden Domes and Silver Lanterns: A Muslim Book of Colors, 2012 Por Hena Khan, Ilustrado por Mehrdokht Amini

Usando un arco iris de colores para el simbolismo, este libro usa colores para explorar la cultura musulmana. De la henna naranja a un hijab azul, los niños aprenden la importancia de los objetos y tradiciones comunes en el mundo musulmán.

Nasreen's Secret School: A True Story from Afghanistan, 2009 Escrito e ilustrado por Jeanette Winter

Después de que los soldados talibanes se llevaron a sus padres, Nasreen, una joven afgana, está desanimada. A pesar de los riesgos, la abuela de Nasreen la matricula en una escuela secreta para chicas. Dicho en un lenguaje sencillo, esta historia verdadera ilumina el poder que la educación tiene para despertar sueños y aspiraciones.

The Best Eid Ever, 2007

Por Asma Mobin-Uddin, Ilustrado por Laura Jacobsen

Durante una celebración de Eid en su sala de oración local, Aneesa se hace amigo de dos chicas. Al notar su ropa mal ajustada, Aneesa descubre que ambas chicas son refugiadas de un país devastado por la guerra. Con la ayuda de su abuela, Aneesa planea una manera de ayudar a sus nuevos amigas a tener el mejor Eid jamás.

Under the Ramadan Moon, 2008 Por Sylvia Whitman, Ilustrado por Sue Williams

Con una hermosa luna para referencia, este libro describe costumbres y tradiciones relacionadas con las festividades musulmanas del Ramadán. El noveno mes del calendario islámico, el Ramadán es el mes más sagrado para los musulmanes.

culturas y contenidos de una manera personal. Por ejemplo, mientras estaban leyendo Yo Soy Malala (Yousafzai y McCormick, 2014), los candidatos docentes de la primera infancia experimentaron con la antigua forma de arte, Henna, y tomaron muestras de las fechas y el té chai durante las discusiones de libros. También es importante involucrar a los candidatos docentes en otras experiencias interactivas significativas que les brinden oportunidades de involucrarse con diversas poblaciones. Estos incluyen invitar a los oradores a compartir experiencias personales

y profesionales, organizar oportunidades de aprendizaje informal a exposiciones de arte, exhibiciones de historia natural, actuaciones en vivo, o para explorar las colecciones de la biblioteca y animar a los candidatos a asistir a eventos culturales dentro de la universidad o comunidades locales.

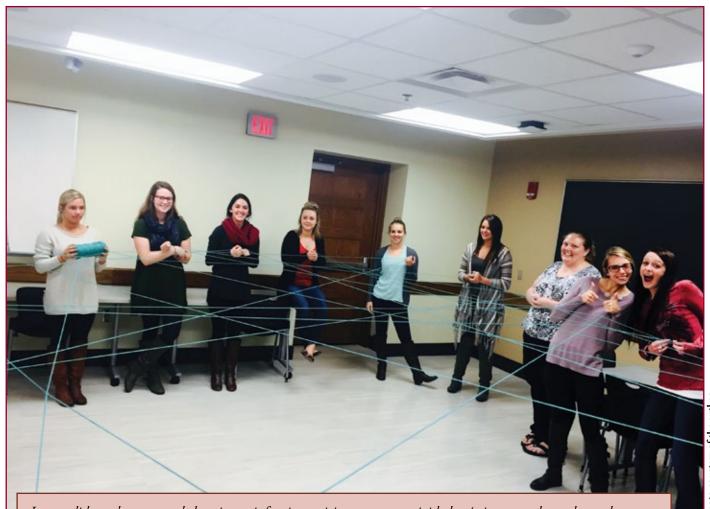
Facilitar Debates Frecuentes sobre Nuevos Contenidos

Durante la lectura de Yo Soy Malala (Yousafzai y McCormick, 2014), los candidatos docentes participaron en reuniones semanales de clubes de libros sobre una variedad de temas diseñados para desafiar sus prejuicios. Después de citar cosas como "libertad de ex-

presión, acceso a la información y usar lo que queremos", los candidatos encontraron preguntas que les hacían explorar y reflexionar sobre cosas como, "¿Cómo afectan estas libertades a la raza, la etnicidad o la religión?" y "¿Cómo conciliar la afirmación de Malala de que la inmodestia femenina es una violación de los derechos de las mujeres?" Preguntas como, "¿Cómo celebrarías los días festivos en tu clase?" conduieron a conversaciones sobre formas de valorar y reconocer la variedad de fiestas religiosas que los niños celebran, así como maneras de respetar los derechos de los niños que no celebran días festivos. Las discusiones impulsaron el diálogo sobre qué temas son apropiados y relevantes para los niños en las aulas de la

primera infancia con conversaciones que van desde el acceso mundial a una educación de calidad y los estereotipos étnicos hasta el terrorismo y los recientes acontecimientos mundiales. Así como no hay una opinión de acuerdo mundial sobre estos temas, rara vez se alcanzó un acuerdo de grupo durante las reuniones del club de lectura. A pesar de esto, las discusiones fueron valiosas experiencias de aprendizaje que permitieron a los candidatos docentes considerar el currículo de estudios sociales de la primera infancia desde múltiples perspectivas globales.

Esté Preparado para Seguir la Pista de los Candidatos para Futuras Investigaciones



Los candidatos de maestros de la primera infancia participan en una actividad práctica centrada en el mundo que fomenta la reflexión personal.

Photo courtesy of the autho



Una aspirante de maestro de primera infancia aplica el contenido de los estudios sociales enfocados a nivel global en su experiencia clínica de tercer grado.

Los instructores deben estar abiertos a las sugerencias de los candidatos docentes para futuras discusiones e investigaciones sobre temas relevantes a nivel mundial. Un documental sobre la vida de Malala titulado Cuando me Llamó Malala (Parkes, MacDonald, & Guggenheim, 2015), no llegó a nuestro teatro rural, los candidatos docentes en mi curso de estudios sociales sugirieron que nuestra clase viera Suffragette (Owen, Ward, & Gavron, 2015), una película sobre el movimiento del sufragio británico a

principios del siglo XX. Los estudiantes vieron esto como una extensión de nuestras discusiones sobre los derechos de las mujeres en la cultura musulmana e hicieron conexiones significativas con la historia de los derechos de las mujeres en todo el mundo. Un proyecto estándar para un curso de métodos de estudios sociales es la planificación de una unidad de estudios sociales. Esta vez, sin embargo, los profesores crearon unidades de estudio auto-elegidas de temas globales relevantes, tales como comunidades, inseguridad alimentaria y consumo humano (Foto 1). Como parte de estas unidades, los candidatos docentes hicieron énfasis significativo en ayudar a los niños a hacer conexiones locales y globales dentro del contenido de los estudios sociales de la unidad. Por ejemplo, en una unidad sobre el consumo humano, dos candidatos docentes exploraron la necesidad de agua limpia y el impacto de la escasez mundial de agua en la vida de los niños.

Alentar a los Candidatos a Aplicar lo que Aprenden en sus Prácticas Clínicas

Se debe alentar a los candidatos docentes a que utilicen y apliquen conceptos globales dentro de sus colocaciones clínicas (Foto 2). Alentando a los candidatos docentes a pensar en la aplicación de nuevos contenidos mundiales, pueden continuar rompiendo los estereotipos identificados durante las discusiones iniciales de prejuicios personales. El estudio de Yo Soy Malala (Yousafzai y McCormick, 2014) llevó a investigaciones adicionales sobre los derechos de las mujeres en todo el mundo y estimuló los descubrimientos de la literatura infantil sobre los derechos de las mujeres. Por ejemplo, los candidatos docentes descubrieron libros como Elizabeth Cads Stanton y Right to Vote (Stone & Gibbon, 2008) y Nasreen's Secret School (Winter, 2009) y los usaron en sus sitios de colocación clínica para facilitar discusiones sobre derechos de las mujeres. Estas experiencias gener-

Cambiar el mundo, un niño, un aula a la vez.

aron emoción continua sobre temas globales, lo que ayudó a su comprensión personal sobre la importancia y necesidad de una visión globalizada del currículo de estudios sociales de la primera infancia.

Sugerencias para Educadores de la Primera Infancia

Las estrategias descritas en este artículo también pueden aplicarse para su uso con educadores de primera infancia licenciados que ya están trabajando en entornos de clase. Los maestros, especialmente aquellos ubicados en zonas rurales o que enseñan en áreas sin poblaciones diversas, pueden adoptar estas estrategias como un medio para globalizar el currículo de estudios sociales para sus jóvenes estudiantes. El examen de los prejuicios personales, el énfasis en las actividades prácticas de los estudios sociales y el uso de la literatura pertinente son herramientas esenciales para introducir contenido enfocado en el mundo entero a los niños pequeños. En particular, con el interés de un pequeño grupo de maestros, o incluso un socio dispuesto, la formación de un club de lectura similar a los descritos en este curso de métodos de estudios sociales es una práctica valiosa para los maestros que desean globalizar su currículo de estudios sociales. A través del compromiso compartido con el crecimiento y la exploración, las conversaciones de libros son posibles antes o después de la escuela, durante el horario común de planificación y/o pausas de almuerzo, en días de desarrollo profesional, o incluso durante una excursión social a un restaurante. Las asignaciones de los maestros para las reuniones de los clubes de lectura pueden ser tan simples como mantenerse actualizadas en la lectura o como involucradas, como traer preguntas de discusión, actividades cortas, conexiones de libros ilustrados y/o información sobre tradiciones y costumbres culturales. La participación en este tipo de desarrollo profesional colaborativo provee una manera significativa para que los maestros exploren contenido nuevo y estimulante y da a los maestros la oportunidad de implementar cambios pedagógicos e instruccionales relevantes (Burbank y Kauchak, 2010). En última instancia, son los estudiantes jóvenes quienes se beneficiarán de los esfuerzos de sus maestros para proporcionar un currículo de estudios sociales más globalizado.

Pensamientos Finales

Las discusiones globales en los cursos de métodos de estudios sociales de la primera infancia pueden cubrir contenido más allá del alcance de desarrollo de los niños pequeños, sin embargo las conversaciones y experiencias de un currículo globalizado pueden ayudar a ampliar la perspectiva de los candidatos docentes. Malala Yousafzai dijo en un discurso ante las Naciones Unidas: "Un niño, un maestro, un libro y una pluma pueden cambiar el mundo" (Yousafzai & McCormick, 2014, p.192). Los candidatos docentes ubicados en las zonas rurales necesitan oportunidades de globalización que los preparen para cambiar el mundo, un niño, un aula a la vez. Dada la cultura actual de temor de diversas etnicidades en América, es improbable que el prejuicio personal haya sido borrado como resultado del esfuerzo de globalización descrito en este artículo. Sin embargo, sin duda, los candidatos docentes decidieron que las discusiones sobre la cultura musulmana y los derechos de las mujeres en todo el mundo tienen un lugar en un aula de la primera infancia. Además, la adopción de un enfoque globalizado puede dar a los candidatos docentes y docentes en práctica de la primera infancia el conocimiento previo necesario para continuar las investigaciones curriculares centradas en el mundo. Seguramente, los candidatos docentes encontrarán a niños de diversos grupos raciales y étnicos dentro de sus futuras aulas, y sin duda sus estudiantes vivirán en un mundo que debe aprender a valorar y reconocer las diferencias. En consecuencia, para los candidatos docentes en las zonas rurales, los esfuerzos de globalización deben ser componentes esenciales de los programas de preparación del profesorado.

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2018 SECA Keynotes



March 1-3, 2018 **Hyatt Regency Lexington Lexington Convention Center**

SMILE: Helping Children with Disabilities Make Friends in the Lunchroom

When children with developmental disabilities (DD) are included in an inclusive environment they can "apply their knowledge to problem solve and develop effective communication and social skills."

Candace J. Gann & Rebecca I. Hartzell

When children with developmental disabilities (DD) are included in the inclusive environment, they and their peers have the opportunity to develop friendships and experience a greater understanding of diversity (Downing, Spencer, & Cavallaro, 2004). In inclusive education, a child is placed in a general education setting to learn alongside peers without disabilities while receiving individualized supports, modifications, and instruction (Jackson, Ryndak, & Wehmeyer, 2008-2009). It is important that not only academic instruction, but also social skills instruction, take place in the inclusive setting (Girli, 2013). Children with DD who have regular exposure to play activities with peers without disabilities tend to engage in more complex interactions than those who lack this type of social exposure, making it imperative that children with DD are allowed and encouraged to participate in opportunities that result in spontaneous peer interactions in natural settings (Bauminger, Solomon, Aviezer, Heung, Brown & Rogers, 2008).

Because many teachers struggle with finding time and resources to implement effective, inclusive academic and social interventions, an intervention was developed to improve social skills for young children with disabilities through the combination of brief explicit instruction lessons targeting individual needs, prompting during periods of natural social interaction, and peer incentives (Hartzell, Gann, Liaupsin & Clem, 2015; Ryndak, Taub, Jorgensen, Gonsier-Gerdin, Arndt, Sauer & Allcock, 2014). Verbal and non-verbal prompting is a common form of adult guidance that helps children with disabilities by providing information about desired behaviors in natural settings during ongoing activities and has been used to improve a variety of skills, including communication (e.g., Humphreys, Polick, Howk, Thaxton, &

Ivancic, 2013) and social skills (e.g., Thomas, Lafasakis, & Sturmey, 2010) among children with DD.

The opportunities aforementioned allow children with disabilities to "apply their knowledge, to problem solve, and to develop effective communication and social skills" (Ryndak, Moore, Orlando, & Delano, 2008-2009, p. 204).

This was the case of Mary, Chantelle, and Beatrice, first grade students with medical diagnoses of developmental delay (DD). Mary, a child with Down Syndrome, and Beatrice, a child with autism spectrum disorder (ASD), spent the majority of their school day in a special education classroom with participation with peers without disabilities limited to lunch, recess, and special classes, such as physical education and music. However, both Mary and Beatrice remained segregated from peers without disabilities in these inclusive settings, sitting at separate tables in the cafeteria or special classroom.

Unlike Mary and Beatrice, Chantelle, a child with ASD, spent the entire school day in the inclusive educational setting. Though the girls were quite different from one another in diagnosis and participation in the inclusive environment, they had similar difficulties with social interactions in the school setting. Mary and Beatrice wandered from peer group to peer group at recess, engaging in frequent aggressive behaviors toward peers, such as scratching, hitting, and pushing in an attempt to gain their attention. Chantelle, on the other hand, could be found sitting by herself engaging in independent activities, such as reading a book or playing in the dirt. At lunch, neither Mary, Beatrice, nor Chantelle interacted with peers sitting near them in the cafeteria. These children were socially alone in a crowd of peers. However, after implementation of the Social Mechanics **Integrated in the Learning Environment or SMILE**

(Hartzell, Gann, Liaupsin, & Clem, 2015) intervention, they were able to form lasting friendships through initiated and maintained social interactions with peers and the amount of time spent in the inclusive educational environment increasing enormously.

Social Mechanics Integrated in the Learning Environment (SMILE)

SMILE is a social skills intervention implemented during a nonacademic social activity that can be employed by any adult who interacts with a child during the school day. This intervention is easy to implement and maximizes the effect of the adults already present, making it a viable option for teachers struggling to teach social skills to young children.

Social Skills Lessons

The first step of SMILE is to identify areas of social improvement for the child or children for whom this intervention is necessary. This is accomplished while obtaining baseline data, as the observations can provide insight into the child's difficulties with social interactions. After these areas are identified, social skills lessons for each of the identified areas should be developed by the child's teacher. All lessons developed for SMILE should follow an explicit instruction format. Explicit instruction is structured and systematic, guiding children through the learning process with clear statements about the purpose and rationale for learning the new skill, clear explanations and demonstrations of the skill, and supported practice with feedback until the child has achieved mastery (Archer & Hughes, 2011). Each lesson should include six key elements:

Figure 1. Using explicit instruction in SMILE intervention

Review

- Review previously taught social skills.
- Review any material that will assist the child in learning new social skills concepts.

Presentation

- Provide a hook to get the student's interest in the new topic.
- State the learning objective.
- Demonstrate the new skill, providing examples and non-example.

Guided Practice

- Practice the skill with the child until he or she is able to demonstrate understanding of the skill through role-play.
- Provide guidance and scaffold instruction if the child is unable to demonstrate understanding of new material.

Correction and Feedback

- When necessary, reteach the concept to the child if understanding is inconsistent.
- Use specific praise to encourage and reinforce the child learning new social skills.

Independent Practice

Monitor the child during social interactions ot ensure mastery.

Weekly and Monthly Review

- Review previously taught skills to ensure concept mastery.
- Review
- Presentation
- guided practice
- corrections and feedback
- independent practice
- weekly or monthly reviews (Figure 1)

The review and presentation elements of the lesson are taught to the child by a selected interventionist (i.e., teacher, teaching assistant, paraeducator, volunteer, etc.) immediately preceding lunch, while guided practice is implemented during the lunch period via prompting. Independent practice of learned social

skills occurs during recess, monitored by school staff members, with weekly and monthly reviews occurring as needed. Single elements of the social skill should be taught each day until the child is proficient in engaging in the selected skill. Only after one social skill has been taught to mastery should the interventionist move on to the next identified area of social improvement. This means that an interventionist might start with teaching eye contact, which might only take three days of learning and practice to become proficient, before moving on to conversational turn-taking, which might require more time.

Prompting

A prompt is a specific cue that provides children with information about desired behaviors in certain situations and must be "presented before the behavior is expected (rather than after), and it must specify the desired social behavior" (Simonsen, Myers, & DeLuca, 2010, p. 302). At the end of each minute, the SMILE interventionist should provide a verbal prompt to engage in the social skill addressed in the most recent or a previous lesson. For example, if eye contact is being addressed, the interventionist might say to the child, "Remember, you need to look at your friend's face when you talk." Prompts should be brief and specific. If a lesson taught two weeks prior addressed vocal audibility, the interventionist might also prompt the child to speak louder during guided practice to ensure the skill is maintaining over time. Vibrating timers, such as a MotivAider, can assist in providing prompts according to this schedule.

Because the child might become dependent on adult guidance, it is

important to fade the prompts in order to encourage independent social engagement with peers. After all lessons have been taught to proficiency, and the child is able to maintain appropriate social interactions at or above 50% of the lunch period (a percent of time commensurate with young peers without disabilities; Hartzell et al., 2015) for one week, prompts should be delivered every two minutes. Prompts can then be delivered at four-minute intervals when the child is able to maintain appropriate social interactions at or above 50% of the lunch period. Finally, when the child can engage in appropriate social interactions for a minimum of 50% of the lunch period for one week while receiving prompts every four minutes, prompting can be discontinued. Once prompting is discontinued, the interventionist should continue to monitor the child to ensure he or she is maintaining the learned skills. If any social concerns occur during maintenance observations, reteach the skill and deliver prompts during follow-up sessions to ensure mastery of the skill.

Explicit instruction, prompting, and planned peer interaction are proven strategies.

Incentivizing Peers

The success of SMILE is contingent on the ability of the child to socially engage with his or her peers without disabilities. Peer-mediated interventions, such as this one,

increase the opportunity for children who struggle engaging in social situations to contact natural social reinforcement that helps to maintain appropriate social behaviors (Bass & Mulick, 2007). To provide this opportunity for reinforcement, SMILE incorporates peers without disabilities into the intervention. As the intervention begins, peers give stickers to the child for engaging in pro-social behaviors. This helps to involve peers in the success of the child receiving the intervention. Incentives should be small, such as a sticker for being a good friend and should be discontinued once the prompting of the child has been faded to delivery every two minutes.

SMILE Implementation

In this section, we describe the SMILE protocol we used with Mary, Chantelle, and Beatrice. For these children, there were five specific areas of social skills weakness identified during baseline observations. Each lesson to teach each of these skills lasted approximately five minutes. After all lessons had been taught, the time typically allotted for instruction was utilized to review the social skills previously taught to ensure concept mastery and maintenance.

Skill 1 - Eye Contact

The first social skill addressed with Mary, Chantelle, and Beatrice was eye contact. The lesson began with a review of why talking to peers was important. The interventionist explained what eye contact was and why it was important, provided visible examples and non-examples of eye contact, and asked each child to decide whether the examples were correct or incorrect. The interventionist then asked each child to

demonstrate correct and incorrect examples of eye contact. Once the interventionist could see that the children were confident in their understanding of eye contact, she reminded them to use eye contact while engaging with peers during lunch. The children were provided brief prompts in one-minute intervals during lunch to maintain eye contact in social interactions. If a child was maintaining eye contact when the timer signaled the end of one minute, she was provided brief specific praise for the behavior.

Skill 2 – Body Language

The second social skill addressed body language. After reviewing eye contact, body language was defined as facing a peer while engaged in conversation. The interventionist explained what body language was by using visible examples and nonexamples and encouraged practice of the skill. Once it was apparent that each child was confident in her understanding of body language, she was challenged to face her peers when conversing during lunch that day. While at lunch, the interventionist provided individual, brief prompts to face their bodies toward their peers and maintain eye contact while engaged with peers at lunch. If a child was maintaining eye contact and using appropriate body language when the timer signaled the end of the one-minute interval, the interventionist provided brief specific praise for the behavior.

Skill 3 – Audibility

After each child was utilizing eye contact and body language proficiently, audibility during conversations was addressed. Audibility was defined as talking loudly enough for peers to hear but without yelling or

Figure 2. Sample explicit instruction social skills lesson plan

Lesson: Conversation Topics

Lesson Objectives:

Children will discuss appropriate topics to communicate with their peers at lunch.

Procedures

Review:

Five minutes before lunch, the interventionist will review the expectations of lunchtime (i.e. "You can tell your friends about yourself."). The interventionist will also review previously learned social skills (i.e. eye contact, body language, and audibility).

Presentation:

The interventionist will begin the lesson by asking what the children like to talk about. The interventionist will then explain that, sometimes, we also have to talk about what our friends like to talk about and explain that they're going to learn about how to talk to their friends at lunch. The interventionist will give children examples of lunchroom topics and work with children to rank the most appropriate topics and explain why each topic is appropriate (i.e., new pet, science experiment, school activity.). Short discussion will focus on topics that will engage peers at lunchtime to include both examples and non-examples of potential lunchroom conversation topics.

Guided Practice:

The interventionist will prompt the children in the lunchroom to initiate conversations with topics discussed in direct instruction (i.e. "Did you want to tell Timmy about the cat you found?"). The interventionist will continue prompting previously learned social skills (i.e. audibility, body language, eve contact) as needed.

Corrections and Feedback:

Children will participate in lunch table conversations to the greatest extent possible. Prompting will be used every minute to help children start and maintain conversations with peers.

Independent Practice:

Children will participate in social conversations and play activities at recess to the greatest extent possible. School staff will monitor topic choice and conversation maintenance.

screaming. The interventionist provided examples and non-examples of audibility, encouraged practice of the skill, and challenged the children to speak loudly enough for peers to hear them while at lunch that day. Prompts or praise were delivered for

maintaining eye contact, using appropriate body language, and/or speaking at an appropriate sound level.

Skill 4 – Conversation Topics

The next skill taught was conversation topics. Figure 2 provides a sample lesson plan for teaching this skill via SMILE. This skill was taught via conversation starters that would help start a conversation, or sustaining conversation by remaining on the topic selected by peers. The interventionist either prompted or praised each child for demonstrating each of the skills they had been learning to exhibit.

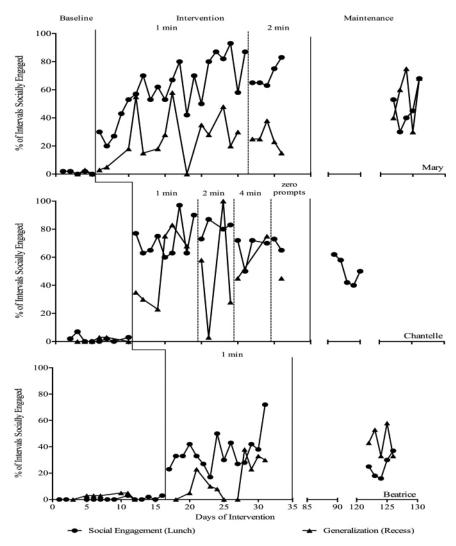
Skill 5 – Conversational Turn Taking

The final skill addressed via SMILE was conversational turn taking. This was explained to the children as taking turns with your voice and waiting for their peer to finish speaking before they started to talk. The interventionist taught this skill in the same way as all previous lessons, using examples and non-examples, opportunities to practice, and provision of feedback. The children were encouraged to use this skill during lunch, along with all previously learned skills. At lunch, the interventionist prompted for conversational turn taking, conversation topics, audibility, body language, and eye contact.

Effectiveness

SMILE was implemented for Mary, Chantelle, and Beatrice three days per week for three months during the spring. Prior to SMILE, each of the girls struggled with social interactions when compared to same-age peers. At no time were any of the girls engaged in social interactions with their peers for more than 7% of time during lunch or 8% of the time during recess. After SMILE was implemented, social engagement significantly increased for each of the children, with Mary's and Chantelle's social engagement increasing

Figure 3. Results of SMILE for Mary, Chantelle, and Beatrice. Adapted from "Increasing Social Engagement in an Inclusive Environment," by R. Hartzell, C. Gann, C. Liaupsin, and S. Clem, 2015, Education and Training in Autism and Developmental Disabilities, 50, 271-272.



to a percent of time that was commensurate with their peers without disabilities. While Beatrice's percent of time engaged in appropriate social interactions did not reach the same level as her peers without disabilities, she did show marked improvement. Further, as a result of SMILE, time engaged in appropriate social interactions on the playground increased, even though no additional training was provided. The graph depicted in *Figure 3* shows the percent of time the three girls were engaged in social interactions during lunch and recess

prior to implementation of SMILE, the specific improvement made by each child following intervention, and maintenance of the learned skills following a break from school. Maintenance data was collected after a summer break to evaluate the lasting effects of the intervention. Because Chantelle was moving out of district at the end of the summer, her maintenance data was collected during summer school after a 50-day break from intervention implementation. Mary and Beatrice's maintenance data were collected

several weeks into the new school year following a three-month summer break.

In addition to the charted improvements in the social skills of Mary, Chantelle, and Beatrice, school staff noted other improvements. Chantelle's teacher stated that she had made wonderful improvements in the classroom. Previous to the SMILE intervention, Chantelle would engage in problem behaviors, such as temper tantrums, and avoided interacting with peers. After receiving intervention, Chantelle began participating in cooperative group activities, smiling and laughing with her peers, and stopped engaging in problem behaviors in the classroom. She also developed a peer group of friends with whom she frequently interacted at lunch and recess. Both Mary's and Beatrice's teacher noted that their classroom behavior and attention to academic task improved, and time spent in the general education classroom increased. The following school year, Mary and Beatrice maintained the friendships developed the previous year and were included in the general education environment for all academic subject areas, interacting with peers in both structured and unstructured settings. The principal noted that, three years after the termination of the intervention, both girls were still engaging in successful interactions with peers and were making academic progress in the inclusive school environment.

Conclusion

Inclusive practices provide children access to their peers without disabilities; however, children with DD often do not have the skills necessary to benefit from participation

with their peers. Explicit instruction, prompting, and planned peer interaction are proven strategies that can be combined to help facilitate social interaction in a natural setting via SMILE. Children are given the knowledge and opportunities to practice social skills during short, structured lessons and a structured prompting procedure implemented during naturally occurring social situations assists the educator in completing the learning experience with the child. Peer incentives assist in helping peers without disabilities invest in the success of social interactions for peers with DD.

Incorporate peers without disabilities into the intervention.

Social skill instructional minutes are included in the Individualized Education Programs of many children with DD; however, it can been difficult to identify interventions that can be easily implemented by school staff, in a short amount of time, and have a lasting effect on the child's ability to interact with others. SMILE provides a simple, yet effective way for educators and support staff to assist children with DD in a setting that is naturally social, and allows children the opportunity to utilize skills that have been taught to them previously. This intervention has been shown to:

- increase social integration in the inclusive school setting
- promote generalization to other inclusive environments

support children in maintaining learned skills across time and across novel peers

It is important that we, as educators, do everything we can to promote social inclusion for children with DD in order to help them to develop lasting friendships and, ultimately, improve their quality of life.

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> Friday, March 2, 2018 **Conference 2018**



The Southern Early Childhood Association

Southern Starts Here

Lessons Learned While Hosting Butterflies: When Things Go Differently



Exploring nature provides opportunities to ask and answer difficult questions. Teachable moments abound "when things go differently."

Darbi Haynes-Lawrence & D'Lee Babb

Uignette #1: Swaying Caterpillar

The students in Ms. Sarah's classroom were excited to watch the progress of the caterpillars they raised from butterfly eggs. They brought in 10 eggs from their garden and all 10 hatched! As each day passed, the children ran into the classroom excited to see the progress of the caterpillars as they passed through their instars. Even the parents were commenting on how exciting it was to observe the caterpillars. At circle time, Ms. Sarah would remove the plants from their butterfly nets, set them on a table, and the children gathered around to watch the movement of the caterpillars. Sometimes they even pooped! The children giggled when this happened. They took turns cleaning the butterfly cage.

One morning, Ms. Sarah placed the plants on the table and the children noticed one of the caterpillars, large and green with black stripes, was swaying on a branch. The little feet toward the end of the caterpillar were hanging on, but the top portion of the caterpillar was not hanging onto the branch of the parsley. The caterpillar was twitching, and swaying back and forth and they thought it was dancing. As the day progressed, the caterpillar became more lethargic. Ms. Sarah knew the caterpillar was not going to survive. She understood the caterpillar had a virus and needed to be immediately removed from the other caterpillars so the virus would not spread. How was Ms. Sarah going to explain this to the children?

Uignette #2: When Things Go 'Differently'

Everything was going right for Ms. Emmy. The indoor garden she and the children developed for the classroom

was a success! Eight eggs were brought in from their outside garden and placed on the curly leafed parsley. The instars ate through their host plants quickly. The parents were engaged in the project and excited to bring in parsley to replenish the eaten plants. Mrs. Johnson and Patty even discovered a caterpillar on the plant they had purchased from Home Depot. The little family of eight caterpillars turned into nine!

All nine caterpillars had transformed into their chrysalises. The children marked off days on their calendar during circle time and were excited to reach the date on the calendar with the big red circle. That was the day they had calculated the butterflies would hatch. TODAY was that day!

Right before the children were going outside to play, Jeffrey noticed one of the chrysalises moving around. Everyone gathered around the butterfly house and watched with bated breath. The chrysalis wiggled and wiggled and after what seemed like an eternity, it finally came out of its shell. After some time of pumping its wings to fill them with blood, the children noticed one wing wasn't as big as the other. Ms. Emmy said the butterfly may need more time to rest from the tiring work of coming out of the chrysalis and she and the children went outside to play.

The children watched the butterfly all day. It pumped one wing, but not the other. One wing was big and colorful; the other wing was small and curled up. How was the butterfly going to survive? How was Ms. Emmy going to explain this to the children? This was not quite right; something had clearly gone "differently" in this butterfly's development.

Butterflies

Nature in the preschool classroom provides many wonderful learning opportunities for children. Crain (2001) states that, "Nature stimulates powers of observation..." and "...fosters creativity" (pp.22). Classrooms with gardens have increased levels of physical (Wells, Meyers & Henderson, 2014), social and cognitive activity (Block, Gibbs, Staiger, Gold, Britt, Macfarlane, Long & Townsend, 2012). In addition to this, exploring nature provides opportunities to ask and answer difficult questions like those presented in the vignettes. Before we discuss methods for answering the difficult questions, let us take some time to discuss hosting butterflies in the classroom by reviewing the development of a garden, as well as the life cycle of butterflies and their offspring. We will then discuss how to work with children when butterfly development does not follow the typical path. In this article, we refer to the butterfly common in Eastern, Central and Southwestern portions of the United States called the Eastern Black Swallowtail.

Establishing Gardens to Host Butterflies

Butterfly gardens need to be located outside in a sunny location where butterflies can locate two plant varieties: 1) those where the mature butterfly can eat and 2) to host the eggs. Zinnias, Bee Balm, Swamp Milkweed, Mexican Sunflower, and Lantana are plants that provide the adult butterfly nourishment. It is important to design your garden so that a flower is always in bloom for the butterflies to eat. Plants that provide nourishment for the offspring



Photo #1: Butterfly egg on Fennel---Eastern Black Swallowtail butterflies are tiny yellow globes.

are Bronze Fennel, Parsley, and Dill. Other items needed in the garden are rocks for the butterflies to land on and get warm and pools of water for them to drink (How to Attract Butterflies, 2015). It is important to locate food sources and host plants in close proximity to one another. Once the butterflies discover the host plants, they may reproduce and lay eggs on them. Talk with the children in your class about the different plants needed in the garden. Make a chart divided into two groups: 1)

mature butterfly food plants and 2) egg host plants. Allow the children to select which plants will be in the garden in the different categories and plan and plant the garden.

Instars are voracious eaters. Teachers need to have plants to replace those that the instars eat. As the instars progress through stages, they eat more food and at an ever increasing rate. Teachers need to care for the plants (being careful not to overwater) and the instars themselves. We have found Flat-leaf and

Curly-leaf Parsley grow much better indoors than Dill so we recommend those plants in the indoor garden. If you keep plants in a butterfly house, be prepared to remove them, as the butterfly house needs to be cleaned regularly. It is important that we take great care of the instars as to avoid causing undue stress on the instars that negatively impacts their development.

Reproduction

After butterflies are attracted to your outdoor garden by the nectar of the plants (Cottingham, 2015), mating often occurs. The male and female butterflies mate for roughly 45 minutes (Papilio Polyxenes, 2015). Shortly after mating, the female butterfly will search for a host plant on which she will lay a tiny yellow-colored egg.

As you talk with the preschoolers about the males and females mating, keep it simple and honest. Tell the children, "The butterflies are fertilizing the butterfly eggs. After they finish mating, the female will lay her eggs. Let's wait until they finish and then we can come back to watch the female butterfly lay her eggs." Come back to the garden after the butterflies have finished and look for the new eggs.

Eastern Black Swallowtails lay between "200-440 eggs (during reproductive season), 30-50 per day" (Papilio Polyxenes, 2015). Reproduction occurs from April to October (Eastern Black Swallowtail, n.d). Once eggs are laid, you can gently cut the leaf or stem with the egg from the plant and transfer it to your indoor garden. Swallowtail eggs hatch about four days after they are laid. In our experience, you can observe a tiny black dot developing in the egg as the egg progresses closer

When Things Go Differently (With Eggs)

Keep a magnifying glass next to the indoor garden for children to use to observe the eggs. Allow the children to keep journals about the eggs' development. They can draw pictures and chart the eggs as they change. If a child notices that one of the eggs is a different color from the other eggs, talk with her about the difference by asking questions such as "Daniella, what have you noticed about the egg? Why do you think it might be different from the other eggs? What do you think that means?" When this happens, it is due to the fact that butterflies lay a large number of eggs at one time, all of which may not be fertilized and these eggs do not develop and hatch.

to hatching. This black dot is the caterpillar, which upon hatching, is referred to as the first instar.

Transferring the Eggs to the Indoor Garden

After a butterfly lays eggs, teachers can transfer the eggs to an indoor garden. It is quite simple to prepare an indoor garden (see Planting Your Indoor Garden).

This house can be a contraption covered in netting or an old aquarium.

When you plan your butterfly house, make sure the host plants for the eggs are placed are in containers easy to remove from the butterfly house as being able to remove the plant makes observation of instars much easier. This is another time when the children can be highly involved as they assist in developing the indoor habitat for the eggs and instars.

Figure 1: Planting Your Indoor Garden

Materials needed:

- Potting soil
- Spray water bottle
- Wooden skewers
- Plants: potted Curly-leafed Parsley and Flat-leafed Parsley.
- If you are going to house the plants in a butterfly house purchased from the store, you will need a pot per plant. We chose to use a large planter that held three plants, and sat it in front of a window in the morning sun.

Preparation: Make sure pots are thoroughly cleaned prior to putting potting soil in them.

What you do: Guide children to fill the pots with dirt one spoonful at a time. Allow the children to place the plants in the pots, pressing down the soil and watering them after the plant is secure. Say to the children, "We are making an indoor home for the caterpillars. The plants will be food for the caterpillars. The sticks will be used for the instars to attach to and form their chrysalis." Further discuss the information from the text with the children as they work on the garden.

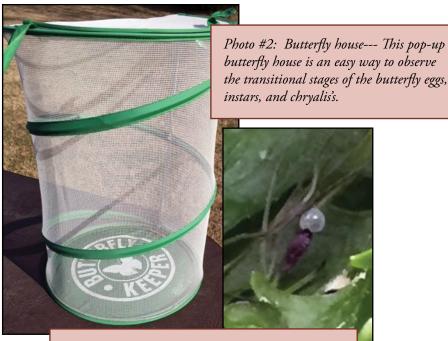


Photo #3: First meal---When an Eastern Black Swallowtail butterfly egg hatches, the instar devours the egg casing as it is full of nutrients the instar needs.globes.



Photo #4: Protective markings---Instars in their initial stages of development have markings on them that resemble bird-droppings. These markings are protective mechanisms to keep them from being eaten by a predator. There are two instars in this photo; one on the left and one on the top-mid center of the parsley. The first instars are not very entertaining, and can be difficult to spot. The children seem to enjoy following the instars' development, so try to count the instars each day in order to track them and their development. More excitement will come as the instars grow and progress through the developmental stages

To bring the eggs inside, simply place the removed leaf or stem on the new host plant. Make sure it does not fall onto the soil. As long as the instars have food and are happy with the food they will remain on their plants. The time to watch for instars to travel off the plant is when they are ready to change to a chrysalis. Place 'sticks' (wooden kabob skewers) with the plants at the beginning of the indoor garden so later-staged instars will form their chrysalises using these sticks. You may want to move instars that are close to forming a chrysalis to an enclosure like a butterfly house where they can move freely, looking for the perfect location to become a chrysalis.

Stages of Instars

The Swallowtail progresses from an egg through five instar phases (Staake, 2012). The eggs are yellow and can be quite difficult to locate (see Photo 1). They take anywhere from four to nine days to hatch (Featured Creatures, 2014).

Instars, commonly called caterpillars, progress through five phases over about two weeks (Staake, 2012) depending on the quality and quantity of the plants they are eating, heat, and humidity (Burris & Richards, 2006). The first instar, which is what you see right after hatching from the egg, is tiny. They are not much longer than an eyelash, which makes them difficult to see. They are black with a white "saddle" and look like bird-droppings. This is a protective mechanism, keeping the instar from being eaten by a predator.

As the instars progress through each developmental stage, they shed their skin, or molt, and have a new skin that is different from the stage before. Children are fascinated to

watch this happen. It is not uncommon for instars to eat the skin they shed. Encourage children to chart these changes in their journal. Ask the children what color they think the instar will be during the next phase and record the children's answers to compare with the actual colors. The instars change from the tiny one presented in *Photo 4*, to a larger, darker instar (second and third), to a fourth instar that looks more like a green caterpillar with more black and gray coloring.

The fifth and final instar is the instar we typically see and the one birds love to eat. This instar is thick, long, has the green and black markings of an Eastern Black Swallowtail) and is often called a caterpillar.

You may want to cutout the pictures from this article and place them on piece of poster board in the classroom. Include the stages of the egg, instar, chrysalis, and butterfly development with the pictures. Children can work together to chart the progression of the eggs, instars, chrysalises, and butterflies that you are hosting.

Defense Mechanisms

Caterpillars have naturally built-in defense mechanisms. If a caterpillar is disturbed, two orange "horns" pop out of the caterpillar's head and it throws its head backwards towards the middle of its body in order to strike its opponent. These horns are called osmeterium (Leslie & Berenbaum, 1990) and emit a horrid smell. They are not toxic to humans; however, if the osmeterium touches your finger, your finger will smell for quite some time. If you decide to show your children the osmeterium by gently stroking the caterpillar, make sure you are wearing gloves!



Photo #5: Fourth level instar---This instar is devouring the blooms of a Fennel plant.



Photo #6: Final instar---This instar is a voracious eater. It won't be long until this instar becomes a chrysalis.

Talk with the children and tell them, "The caterpillar needs to protect itself from predators like birds so it has a defense mechanism. A defense mechanism is a way that the caterpillar can get the predator to go away. Each variety of caterpillars has its own defense mechanism. When this caterpillar is scared, it has small orange horns that pop out of its head and it will throw its head back so it can attack. The horns are called osmeterium and have a bad smell. I'm going to gently show you the osmeterium."

Transforming into a Chrysalis (Not a Cocoon!)

As a caterpillar nears chrysalis form, the caterpillar's movement slows and it stops eating. They appear quite large and almost swollen, as if they are going to split in two. Predict when the caterpillar will begin the resting phase by using a two-week time period. Record on a calendar when the eggs are found and the progression of the caterpillars through their instars. Make close

When Things Go Differently (With Instars)

As described in the first vignette, a caterpillar displayed signs of disease. The caterpillar is sick and, unless it is removed from the other caterpillars, it will infect them all. Unfortunately, situations like these happen. If they were to happen in the wild, the caterpillar would be eaten by a predator. When this happens indoors, we have to decide what to do with the caterpillars.

This scenario is far easier to explain to children than the second vignette (discussed in When Things Go Differently from Chrysalis to Butterfly.) Euthanizing an animal is always a difficult thing to do; however it is much kinder than allowing the caterpillar or butterfly to die in the wild. The most humane way to euthanize a caterpillar or butterfly is to put them in a zipper-sealed baggie and place it in the freezer (Euthanizing Dying Butterflies, n.d.). Be honest with the children about this situation. Tell the children the truth "The caterpillar is very sick. If it stays with the rest of the caterpillars they may all get sick." Allow the children to be sad about this and respond with phrases like, "We are sad that the caterpillar is sick and will die." Explain the process to the children and let them know that the caterpillar will not hurt as much this way. Remember to avoid phrases like "put to confuse children. In fact, the phrase "put to sleep" can even make a child worry about going to bed at night. (See the Discussing Euthanasia with Children information in Figure 2.)

Figure 2: Discussing Euthanasia with Children

Explaining the need for euthanasia has the potential to cause distress for children. However, we want to carefully explain why it is necessary to euthanize a caterpillar or butterfly. According to Tousley (2015), "Be open and honest" with children about what is happening and why. When providing this information, make sure it is age-appropriate and allow the children to ask any questions they have. Explain why euthanasia is necessary and make certain to explain what is happening with the preschoolers' parents. You may even want to explain this possibility with parents prior to starting the indoor garden. You may have some wonderful conversations in the classroom about life and the progression of life. In these situations, allow the children to state their feelings and discuss them. Ask children how they feel about the butterfly and what has happened. When Mary says, "I'm sad about the butterfly" encourage her to continue her thinking by simply responding "So, you're sad about the butterfly?" This allows Mary to continue to explain her thoughts. Do not be surprised if children ask you about a friend they have who has a difficult time walking or using their arm. It is natural for children to apply one situation to another as they work to make sense of their experiences. Respond to such comments by stating simple truths. "The butterfly has a wing that will not allow the butterfly to fly. He can't get away from other animals that will hurt him." Keep your comments simple but be honest.

observations of the fifth instars' behaviors. When the fifth instars slow their eating and look like they are swollen, place them on a plant in the enclosed butterfly house. Have sticks in the plant and threaded through the butterfly house so the fifth-stage instars can find a good home on which to attach.

Once the fifth stage instar finds a location it likes, the instar will 'purge its guts' (intestinal clean out). You may notice the once very thick sausage like caterpillar is now smaller and shaped like a "C". In the initial stage of the "C" shape, the caterpillar appears to hang on to the stick with its many little feet. During the next stage, the caterpillar secures itself to the location/stick with a silk strand around its upper half and a tiny bit of silk attached at its tail-end.

Encourage the children to check regularly to see if the caterpillar has attached itself to the stick. Record when the caterpillar wraps the silk strand around its head and 'lets go' of the stick. Approximately 24 hours after this, the caterpillar will make its final transformation into the chrysalis. During this time, observe the caterpillar change from a brilliant green with black stripes to faded green with light brown with dry skin.

Notice the difference between the first photo of the caterpillar (see Photo 8) where it is 'hanging' from the silk thread to the next photo (see Photo 9). See how it is less green and almost looks crispy? The pictured caterpillar molted one final time 30 minutes after the photo was taken. Molting starts with a rip in the back skin of the caterpillar. Notice in the next picture there seems to be a bunching of skin at the tail of the caterpillar and the skin is beginning to come off.

As the skin of this caterpillar molts, the caterpillar will thrash about from side to side, until the skin is shed and the chrysalis is left. The chrysalis can be brown, green, or dark brown. Let the children know that the thrashing to discard the skin is normal and that the caterpillar needs to do this itself without our help. If you touch the chrysalis, it will wiggle in self-defense. Many people mistake the chrysalis for a cocoon but a cocoon is for a moth rather than a butterfly.

Timeline of Chrysalis to Butterfly

Approximately 14 days after the development of the chrysalis, a butterfly will emerge. As the butterfly emerges from the chrysalis it may appear to be working very hard and it may take a little time. Sometimes children will want to help the butterfly emerge. The butterfly needs to work hard to emerge in order to strengthen its wings. Encourage the children to watch but not help. Have cameras available so that the children can take pictures of what they are seeing or encourage them to draw pictures of these in their journals. The butterfly needs to hang upside down to pump blood



Photo 7: Osmeterium. Watch out! The osmeterium, or orange horn-like device protruding from the head of the caterpillar, is another protective mechanism against predators. If touched by the osmeterium, wash your hands or bear the burden of having 'stinky butterfly fingers'!



Photo 8: Beginning the transformation---The caterpillar attaches itself to a stick, or stem of a plant, with a small strand of silk.



Photo 9: Change in color--- As the transformation from caterpillar to chrysalis begins, notice the change in color from bright green, to faded and drier skin.

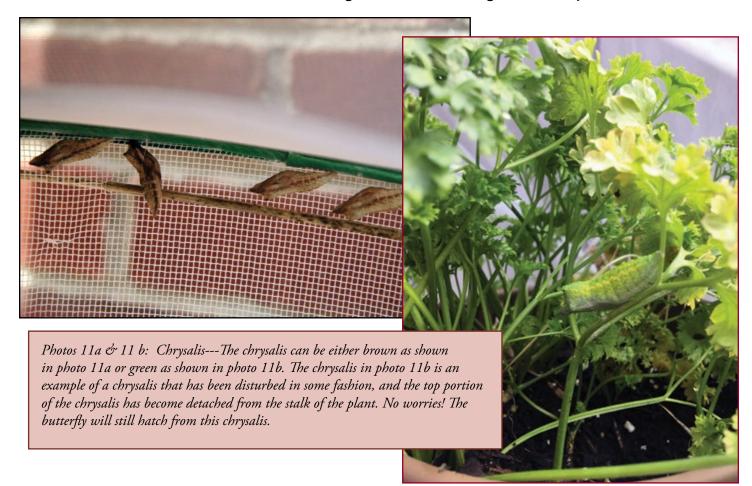
Figure #3: Observing the Development of the Chrysalis

Observing the caterpillar wrap itself in the silk strand is a fascinating experience, as it seems almost impossible that a caterpillar can 'loop' this strand around itself. After the loop is in place, the caterpillar will relax and lean back, appearing to magically hang from the stick! This loop holds the chrysalis in place. If you touch the caterpillar during this time, it will wiggle, as if shaking off a predator.

Talk with the children about this by saying, "The caterpillar is beginning to build his chrysalis. Some people call the chrysalis a cocoon. Look how he wrapped a loop around his head and then connected it to the stick. How do you think he did that?" Continue the conversation with the children by allowing them to ask questions and explore their thoughts and theories about this phenomenon.



Photo 10: Beginning to molt---The skin of the caterpillar is loosening, and beginning to puddle at the bottom of the caterpillar.



into its wings. During this pumping, a reddish liquid is expelled which is a normal process for the butterfly. Teachers and students should observe but not touch the butterfly while it is pumping its wings. During this time, the class can see if it is a male (has a row of yellow spots on the back of wings) or female butterfly (has a row of blue spots on the back of the wings; Morphology, 2014). Once the butterfly's wings have fully emerged and the butterfly is flittering about the enclosure, it is time to be released!

We recommend releasing the butterfly beside the outdoor garden so the butterfly has a food source to land on, eat, and can warm itself in the sun. Celebrate this release with the children.

Conclusion

Exposing children to nature through an outdoor garden can be a wonderful experience. Bringing nature indoors and observing up close and personal the tiniest experiences which would otherwise be missed is phenomenal. This experience is an ongoing project throughout the year and can take months to develop and

plan. The planning and preparation of the garden can happen in early spring. Parsley seeds can be planted by each student and grown in the classroom in early March. The plants can be transferred outdoors to the butterfly garden. Host plants for the mature butterflies should be planted in accordance to the zone in which you live. Once the garden is established continue watching, recording, and discussing the butterfly develop-

When Things Go Differently (With Chrysalis)

Simply because a fifth instar transitions into a chrysalis does not mean a butterfly will hatch. In the outdoors, a chrysalis may be attacked by ants or other predators and eaten. In some instances, a fifth instar can be stung by an Ichneumon Wasp (Tschopp, Riedel, Kropf, Nentwig, & Klopfstein, 2013) and infected with a parasitic larva. The instar may transition into a chrysalis, but the parasitic larvae uses the body as a host and what hatches from the chrysalis is not a butterfly, but a wasp. Thus, educators should use caution if a fifth stage instar is found outdoors and brought indoors to observe.



Photo 12: A butterfly has hatched! As a butterfly exits the chrysalis, it will take a few minutes for the wings to be filled with blood.

When Things Go Differently (From Chrysalis to Butterfly)

Instars raised indoors may also have problems and not hatch. In this situation, we suggest some trouble shooting ideas.

- First, allow the chrysalis a few more days to hatch. As not all babies are born on due dates, neither are butterflies!
- Second, if the weather has become colder and the days shorter, the chrysalis may have gone into diapause or hibernation (Ballard, 2014) and may have settled in for a long winters nap! If the educator chooses to keep the chrysalis indoors, care must be taken to make sure the appropriate humidity levels are kept. We suggest putting the chrysalis outdoors, in a container that will protect the chrysalis from predators (much like the butterfly house). The chrysalis may hatch come springtime.
- Finally, it could be possible that the chrysalis may not hatch at all due to unknown issues during development. Thus, the butterfly has died. When the children notice that the chrysalis still has not hatched, respond by saying, "You're right. The chrysalis did not hatch and it has been a while. Sometimes this happens and the butterfly dies and does not hatch." Allow the children to respond and share their thoughts and feelings about what has happened with the butterfly. Be certain to continue being honest with the children about the situation.

In the second vignette, this beautiful butterfly has a malformed wing. The butterfly if left in the wild will be eaten by an insect, group of insects (like ants) or another predator such as a bird because it could not fly away. Talk with the children about how the butterfly is suffering and will not be able to fly, eat, or care for itself. In this situation euthanizing the butterfly is the kindest thing to do and is much kinder than allowing the butterfly to die in the wild. Finally, it also presents another wonderful opportunity to talk with the children about death and their feelings about it.

ment for the summer into the fall season. Discussion and observation would continue through the winter months, as the chrysalises are overwintering. Again each spring, parsley can be raised in the classroom, and then transferred into the butterfly garden. The butterfly experience can be incorporated into your curriculum for the season by including books in your class such as The Very Hungry Caterpillar by Eric Carle, Butterflies by Emily Nye, or From Caterpillar to Butterfly by Deborah Heiligman. Include opportunities for children to create art about the instars, caterpillars, and butterflies. Encourage the children to watch and talk with the insects living in their classroom and be a part of developing the living environments.

Many lessons are learned through children's observation of the development of butterflies from eggs, to instars, to chrysalis, to the emergence of an Eastern Black Swallowtail Butterfly. Much discussion about these stages can take place in the classroom. As you develop your outdoor and indoor gardens and get to know butterflies, allow children to be involved in as much work as possible. Discuss with the children all that you know about the different stages of butterfly development. You will be amazed by the depth of the children's questions. When your class has an experience like those discussed in "When Things Go Differently," encourage and celebrate their emotional depth and sensitivity. Have a wonderful time enjoying all there is to explore in this adventure.

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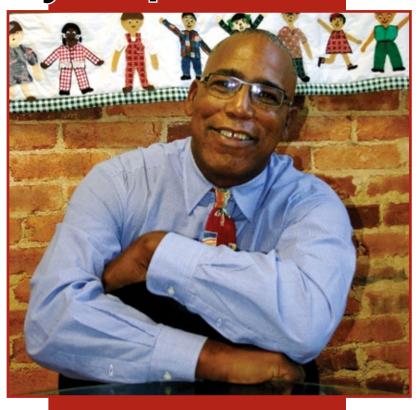
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