

A Review of the Research: Common Core State Standards for Improving Rural Children's School Readiness

Lora Battle Bailey

Early Childhood Education Journal

ISSN 1082-3301

Volume 42

Number 6

Early Childhood Educ J (2014)

42:389-396

DOI 10.1007/s10643-013-0621-6



Your article is protected by copyright and all rights are held exclusively by Springer Science +Business Media New York. This e-offprint is for personal use only and shall not be self-archived in electronic repositories. If you wish to self-archive your article, please use the accepted manuscript version for posting on your own website. You may further deposit the accepted manuscript version in any repository, provided it is only made publicly available 12 months after official publication or later and provided acknowledgement is given to the original source of publication and a link is inserted to the published article on Springer's website. The link must be accompanied by the following text: "The final publication is available at link.springer.com".

A Review of the Research: Common Core State Standards for Improving Rural Children's School Readiness

Lora Battle Bailey

Published online: 26 November 2013
© Springer Science+Business Media New York 2013

Abstract Although a plethora of research focuses on economically at-risk preschool children in general across the United States, little can be found that investigates methods for improving rural children's academic outcomes. This review of research is intended to provide a contextual understanding of the background and current conditions that exist for rural preschool children and their families in America, and to recommend strategies for improving adverse cognition and learning conditions, including a lack of early literacy skills, and low high school completion rates that frequently are found in this population, utilizing the Common Core State Standards (CCSS) as a framework. Attention will be given to demographics, academic performance and scientifically-based practices proven to impact both teaching and learning for rural preschool children, particularly those from minority households, incorporating the newly developed CCSS. A comparison will be made between rural white and African American children's learning and cognition, highlighting significant disparities for African American students, despite the fact that they make up less than 10 % of all rural preschool children. For the scope of this study, rural communities will be defined as those with varying qualities situated outside of metropolitan areas. Results from this study reveal the conditions for rural preschool children, especially those from African American families with low-income levels. Findings indicate that providing training for teachers, administrators and families linked to rural schools; and infusing CCSS into the rural preschool curricula significantly improves school readiness, and decreases dropout rates.

Keywords Early childhood rural education · Preschool teacher education · State common core standards · Standards-based teacher education · School–family involvement

Introduction

This report is intended to provide a contextual understanding of the background and current conditions that exist for rural preschool American children and their families, and later recommend strategies for countering and improving adverse school readiness and high school completion rates (Bailey et al. 2007; Center on the Developing Child at Harvard University 2010; Fischer et al. 2013; Johnson and Strange 2009; Johnson et al. 2010; Mattingly and Stransky 2010). The study focuses solely on preschool programs' impact on rural children's outcomes across multiple domains, with an emphasis on cognition and learning for African American children prior to entering primary school settings. Attention will be given to demographics, academic performance and scientifically-based practices proven to impact both teaching and learning for rural preschool children. For the scope of this study, rural communities are those with varying qualities, but essentially the same in one important way—their locations being outside of metropolitan areas. The United States Department of Agriculture explains: "The economic and social character of rural places varies greatly across the United States. The economy of some rural areas still depends on employment in farming, mining, and timber work—traditional rural extractive industries. Many of these communities face declining job opportunities and population loss. Shrinking economies force workers to find new ways of making a living, often in metropolitan cities. Low-density settlement patterns often make it more costly for communities and businesses to

L. B. Bailey (✉)
Early Childhood Education, Indiana University Northwest,
3400 Broadway, Gary, IN 46408, USA
e-mail: lorbaile@iun.edu

Table 1 Racial and ethnic distribution of children living in rural and urban areas

Total distribution	Metropolitan (100 %)	Rural (100 %)
White-non Hispanic	56.5	75.1
African American-non Hispanic	16.1	9.7
American Indian—Alaska Native, non-Hispanic	4	1.9
Asian-Pacific Islander, non Hispanic	4.5	1.2
Hispanic	20.2	9.6
Bi-racial (at least 2 races)—non Hispanic	2.4	2.4

provide critical services. In contrast, other rural areas, particularly those rich in natural amenities, have experienced economic transformation and rapid population growth (USDA Economic Research Service 2013).” Such adversities do impact the quality of living for rural children in a general sense, and have implications for how children will perform in preschool and later in primary grades (Johnson and Strange 2009; Mattingly and Stransky 2010).

Rural Community Demographics in America

There are 14 million children living in rural America. In fact, one out of every five children in the United States lives in rural communities with rural families (Rural Families Data Center 2010). These children will eventually attend one of 8.5 million rural schools operating across America. The disparities among children from low-income backgrounds and their counterparts are drastic and challenges for rural children and their families are great. Among those challenges are harsh economic, social and educational conditions that must be countered if these children are to gain a sense of resiliency.

Table 1 depicts the racial and ethnic distribution of children living both inside and outside urban/metropolitan areas, providing an overview of the changing demographics of rural settings, and steady increases in African American and Hispanic presence (see Table 1). It clearly illustrates statistics that help to portray the make-up of rural American communities, however, two additional points are worthy of noting: (1) the changing face of children present in rural communities and (2) the limited number of African American and Hispanic children living in rural areas. These demographics will be contrasted with the number of African American children who are recommended for special education placements, and lack early literacy skills, such as beginning sounds from Table 2, which will be presented later in this study.

The United States Census Bureau 2010 Census data (United States Department of Commerce 2010) indicate that both rural and urban communities are growing more

diverse with the arrival of an increasing number of immigrant families, thus expanding concerns for meeting the diverse needs of young children in rural and urban preschool settings. Additional concerns to be addressed include how to close learning gaps, improve school readiness and increase high school completion rates for minority preschool children from economically depressed rural settings than their urban, non-rural counterparts.

Review of the Literature: Rural Preschool Learning and Cognition, by Race

American preschools face rising challenges to improve both teaching and learning, with an emphasis on increasing school readiness and overall learning and cognition for all young children (Bailey et al. 2007; Gershoff 2003). Studies have been remiss in offering specific strategies for overcoming academic adversities for rural preschool children, thus, this research provides a review of literature aimed at improving learning and cognition for young children attending rural preschools.

Resoundingly, learning conditions are worse for early childhood aged children (birth-5 years old) from low-income backgrounds and attend rural preschools (Bailey et al. 2007; Gershoff 2003; Rural Families Data Center 2010). Over the past three decades, early childhood education research has produced a plethora of studies aimed at evaluating the efficacy of developmentally appropriate practices, and the effectiveness of programs used pervasively across preschools, such as High/Scope or Reggio Emilia, aimed at increasing early literacy skills, impacting school readiness and increasing high school graduation rates for young children, regardless of their backgrounds (Bowman and Moore 2006; NAEYC Position Statements on School Readiness and Related Issues 2009; Pianta et al. 2007). Studies that focus on uncovering proven methods to significantly impact learning conditions for young children in high-needs school settings have found that constructivist and standards-based practices are affective (Bailey and Swick 2005; Bowman and Moore 2006; NAEYC Position Statements on School Readiness and Related Issues 2009; Pianta et al. 2007). Recently, an emphasis has been placed on ensuring curricular consistency, in terms of the concepts offered across grades levels in all American public schools, from preschool through twelfth grade. This framework suggests a common core of standards for mathematics and English to collectively address learning deficiencies and advance academic outcomes in these areas for American students (Common Core Standards 2013).

The present study aims to determine the usefulness of such a framework for rural teachers, administrators and preschool learners to impact cognition and learning;

Table 2 Rural and non-rural white children and rural and non-rural African American children attributes

Attributes	Rural aggregated	Non-rural aggregated	Non-rural white	Non-rural African American	Rural African American	Rural white
Special education	25 % (60 % more likely)	10 %				
Beginning sound proficiency at Kindergarten			40 %	20 %	5 %	25 %
Two parent homes			75 %	33 %	20 %	71 %
Household income at \$75,000	50 % <likely than non-rural	50 % >likely than rural				
One pre-school			54 %	37 %	14 %	35 %
Multiple pre-schools			36 %	48 %	56 % >likely than non-rural African Americans	
Weekday hours spent watching TV				14 %	35 %	42 % (3 × >likely than rural & Non-rural rural white)

address mandates aimed at raising achievement for all children, across all groups, including those from rural and urban settings; increase school readiness; and to close learning gaps between rural and non-rural preschool children (Center on the Developing Child at Harvard University 2010; Johnson et al. 2010; Peterson, 2005; Pianta et al. 2007; Hirsh-Pasek et al. 2012).

NAEYC and school readiness advocates support the implementation of teaching and learning practices designed to support one important aspect of the past No Child Left Behind mandate, which requires that schools and universities work collaboratively to "... raise academic achievement for all students and close gaps that separate students of color and low-income students from their peers ... (Peterson 2005)." Both groups are clear in their expectations to raise achievement for all young children, especially those who typically underperform on state assessments, are from low-income backgrounds, and/or African American, non-White (Bowman and Moore 2006; NAEYC 2009; Pianta et al. 2007).

Despite the fact that the great majority of rural children are white and non-Hispanic, the achievement gaps between rural and non-rural children in general, regardless of race, are significant; rural children being those who perform significantly poorer on standardized tests. In fact, NCLB data revealed that urban children outperform rural children academically, in terms of early learning and cognition (Peterson 2005). Rural Families Data Center (2010) found that the achievement gap of rural children is seemingly due to many of the factors that contribute to the poor academic conditions of urban children, which are excessive school absence/truancy, families' low-socioeconomic status resulting from adverse conditions of employment, high poverty, drug and alcohol abuse, and increasing rates of

high school dropout. This review will highlight the deficiencies that are prevalent for rural versus non-rural children, and investigate whether a curriculum infused with Common Core State Standards (CCSS) and developmentally appropriate practices supported by NAEYC might bridge the gap between the academic outcomes of rural and urban children, especially those who are African American and from low-income backgrounds.

Additional factors related to income and rurality have been found to significantly impact educational attainment. Gershoff (2003) discovered that children who were economically disadvantaged, and live in rural settings had markedly more negative academic learning and cognitive outcomes than those who lived in non-rural settings and were economically advantaged. He stated that: "children in families whose incomes fall below 200 percent (of the federal poverty levels) are well below average on their reading, math, and general knowledge test scores at kindergarten entry compared to the well-above-average scores of children living in families with incomes over 300 % of the (federal poverty level), which is \$55,200 for a family of four." These negative conditions for children from low-income backgrounds substantiate the need to uncover teaching and learning strategies specifically designed for rural schools that will increase learning and cognition for all preschoolers enrolled in such a setting, regardless of race or ethnicity (Gershoff 2003, p. 3).

Further, despite the fact that some data related to rural children indicate that they are better off than urban children on some measures, such as English speaking, overwhelmingly, rural children perform poorer than their counterparts on academic outcomes, such as math, reading and general knowledge, which are the essential measures for school readiness (Bailey et al. 2007; Center on the Developing

Child at Harvard University 2010; Fischer et al. 2013; Johnson and Strange 2009; Johnson et al. 2010; Mattingly and Stransky 2010).

In sum, rural children face significantly more disadvantages than their non-rural counterparts. Table 2 depicts critical disparities that exist between the two groups as well as the adverse conditions for rural children as an aggregated group, and simultaneously provides an overview of the significant disparities that exist for African American rural children within the group, compared to their counterparts. Aggregated data for non-rural and rural children show that non-rural children's cognition and learning related to beginning letter sounds prior to kindergarten, and household conditions are more adverse. The Rural Families Data Center (2010) indicates that sixty-percent of the total population of children placed in special education classes were more likely to be from rural backgrounds than non-rural households. Where socioeconomic status and income is concerned, rural children are 50 % more likely than non-rural children to live in impoverished conditions. When asked about household incomes, respondents indicated that 50 % more non-rural families earned annual salaries over \$75,000. This fact is important given its significance as a predictor of educational outcomes and high school graduation rates (Gershoff 2003; Grossman 2007; Walberg and Marjoribanks 1973). Investigations found that as income increases, educational attainment also rises, particularly where high school and college completion are concerned.

The present review of research revealed that forty-eight out of the top fifty American counties with the highest child poverty rates are rural. The mortality rates rural children are forty percent higher than rates for their counterparts. These negative factors combined are ones that effectively predict school failure, increased high-school dropout, and serve as indicators that hamper school readiness. Such statistics underscore the importance of revealing methods proven to impact rural children's outcomes, especially those who are African American and from low-income backgrounds (Rural Families Data Center 2010).

By race, non-rural white families reported more positive factors directly correlated to school readiness than African American and white non-rural children, especially related to two-parent households (Gershoff 2003). Family factors, including smaller family sizes and parent structures, such as single or two parent households, have long been correlated with income and wealth, and are quite positive for the white family. In fact, there has been little difference reported between the structures of rural and non-rural white families. While 75 % of non-rural white children live in two-parent households, only slightly fewer white rural families reportedly had households that were run by two parents, at a rate of 71 %. This contrasts significantly with the composition of rural and non-rural African American

family households. For example, compared to the 71 % of rural white families that reported two-parent households, only 20 % of African American families in rural settings were found to live in two-parent households. This 51 % difference between groups contrasts significantly, based on race.

Walberg and Marjoribanks' (1973) groundbreaking study on family size and socioeconomic status also found a clear correlation between positive educational outcomes, socioeconomic status, and family size. This study demonstrated that two-parent households were more likely held middle to upper income statuses, which highly correlated to higher educational attainment for the group. This research suggested that these families would maintain or improve generational prosperity, which involved high school and college completion. Nevertheless, African American rural families from single-family households were likely to experience adverse conditions frequently associated with low educational attainment. They were also less likely to be prepared for primary school settings and to complete high school (National Center on Quality Teaching and Learning 2012).

Additional adverse conditions that impede school readiness for rural children, aggregately and disaggregated by race, are related to proficiency at using beginning sounds, and a lack of participation in preschool programs. Research indicates that young children who are proficient at knowing beginning sounds and have attended preschool at least 1–2 years prior to first grade are more likely to be prepared for primary settings (National Center on Quality Teaching and Learning [NCQTL], 2012). While 40 % of non-rural white children studied were deemed proficient at beginning sounds, only 25 % of rural white children earn this status. More disturbingly, only 5 % of African American rural children were reportedly proficient at beginning sounds, compared to 20 % of their African American counterparts who live in non-rural settings. While there is a similar difference of 15 % in beginning sound proficiency between both African American and white children living in rural and non-rural settings, African American preschoolers were significantly less prepared for primary settings, based on their ability to understand and use beginning sounds and other cognition and learning proficiencies (NCQTL 2012).

Similarly, preschool attendance served as a barrier for African American children's school readiness. For example, NCQTL (2012) indicates that children who attend preschool within the same school environment over a course of two or more years perform better in primary settings than those who lack preschool participation, or matriculate to multiple preschool environments prior to attending first grade. Data from the study revealed that only 14 % of the participating rural African American families reported preschool participation, compared to 35 % of white rural families. The same study found that 56 % of the African American rural children

attended multiple preschool settings, while less than 5 % of white rural children were placed in multiple preschool settings prior to first grade, increasing the likelihood that white children from rural settings will be more prepared for primary settings; and decreasing the opportunity for African American children to experience developmentally appropriate instruction over the course of 2–3 years, which is needed to ensure instructional consistency and significant growth in cognition and learning.

While some Rural Families Data Center (2010) reports indicate that rural children experience better conditions than non-rural children in areas such as English-speaking and housing, non-rural children outperform their rural counterparts on educational attainment measures, regardless of race (Capizzano and Fiorillo 2004). Additionally, referencing Table 2, 60 % more rural American children are likely to be placed in special education classes opposed to non-rural children, aggregately. More than 50 % of all rural families are likely those who will be classified as impoverished, and who earn far less than \$75,000 annually for four person household. These additional negative statistics for rural preschool children evoke questions related to which learning practices and methods for enhancing the cognition of rural children. Further, the summation of adverse attributes explained thus far suggests the need to investigate whether elements of a framework similar to the CCSS might be suitable for addressing teaching and learning deficiencies for this population of preschool children, especially those who are from minority, non-white households.

Table 1 depicted the changing face of rural citizens, growing increasingly more diverse, with approximately 10 % of young children living in rural settings being Hispanic, and about the same percentage being African American. However, based on data from Table 2, we find that only 5 % of African American children are proficient at beginning letter sounds, which is an important early literacy skill needed to acquire more complex language and reading skills. Similarly, we discover that 56 % of African American children are likely to have attended multiple preschool settings by kindergarten, a factor correlated with decreased school readiness. Further, it is the African American child who likely resides within a single parent household, and who will watch three times more hours of television than their rural-white counterparts, leaving them with fewer hours to attend to home learning activities shown to improve school readiness (Bailey 2006a, b, c).

Even though 75 % of rural children are non-African American, the rural African American child typically fails to perform adequately on state assessments used to track school achievement. Gershoff (2003) found that "... fewer than one in ten rural black children were proficient at identifying beginning sounds at kindergarten entry, compared to four out of ten non-rural white children," and that

such a deficiency negatively impacts cognition in early reading literacy. In fact, these adverse academic outcomes at kindergarten, combined with poor performance on standardized and other school assessments, have led the African American to alarmingly high dropout rates.

However, juxtaposed to the many studies that report negative factors for rural school families, one important study on rurality in schools points to positive factors found to improve teaching and learning for this population. Redding and Walberg (2012) explain that while many indicators point to the dysfunctionality of rural schools, and that some rural schools can be blamed for lower academic attainment, there are some positive characteristics germane to rural settings. Redding and Walberg found such positive attributes are associated with strong family-school ties in small rural communities that are found to increase school success. Therefore, a focus must be aimed at the development and implementation of effective home-school partnerships to positively impact rural preschool learning, and increase the rates of school readiness for this population.

In sum, based on the overwhelming adverse conditions for African American children who live in rural settings as a disaggregated group, the implications are clear for the need to develop and test instructional practices aimed at impacting academic outcomes this group. Indications suggest that incorporating proven practices endorsed by NAEYC, utilizing a standards-based framework to ensure ample focus on increasing school readiness skills such as beginning sounds proficiency and other factors that influence school readiness, combined with efforts to develop and implement strong school–family partnerships might facilitate increases in educational attainment for African American children living in rural settings (Bailey et al. 2007).

A Review of Developmentally Appropriate Practices to Improve Teaching and Learning in Rural Preschool Settings

Taken as a group, rural preschool students face overwhelming deficiencies in cognition and learning, school readiness and overall academic outcomes (Gershoff 2003). To counter such adversities, preschool centers must be willing to develop substantive partnerships with higher education institutions, other NAEYC accredited programs proven to have impact on the learning of rural students, state agencies and community networks already in place to serve rural families, and work to infuse standards into across all aspects of the curricula to support learning for high-needs children and engage their families.

To achieve the aforementioned goals, professional development must be provided and sustained over time, and aimed at teachers' growth and development across multiple

domains, most importantly, an emphasis must be placed on teachers' content knowledge in early literacy (Bailey and Silvern 2005; Bowman and Moore 2006; NAEYC 2009; Pianta et al. 2007; Snow et al. 1998). Recent research indicates that the residual outcome of children's readiness in early reading literacy is their readiness in numeracy and other learning domains relevant at kindergarten entry. In fact, a well prepared preschool environment, equipped with a high-quality reading program is perhaps more important than the quality of home environments for predicting school readiness for underrepresented children, including students in rural settings. Snow et al. (1999, p. 1) state, "Children live in homes that support literacy development to differing degrees. Because of this variation in the home environment, many children need high-quality preschool and school environments and excellent primary instruction to be sure of reading success." Additionally, preschool programs must assist parents to provide critically needed for children's academic growth and development at home (Bailey 2004a, b, 2006a, b, c; Center for the Developing Child at Harvard University 2010; Johnson and Strange 2009; Snow et al. 1998). Preschool programs must include amble focus on school, university and community partnership to ensure that underrepresented, high-needs children, including those who live in rural settings, are ready to succeed, academically at the point of kindergarten entry (Center for the Developing Child at Harvard University 2010; Fischer et al. 2013; Johnson and Strange 2009; Mattingly and Stransky 2010).

According to researchers who study democracy in education, and proponents of school curriculum to better engage all children and families, when schools, families, community networks and higher education institutions partner to tackle adverse learning conditions in local schools, academic outcomes for children exponentially increase (Freire 2000). Thus, a cohesive curriculum that engages rural families, combined with professional development for to teachers and administrators in rural preschools, and significant emphasis on a standards-based curriculum might be suitable for attaining substantial gains in cognition and learning for rural preschool children.

Finally, infusing NAEYC principles and standards, in combination with content specific standards, state and national, also have been shown to strengthen schools' potential to improve both teaching and learning in rural and non-rural schools (NAEYC 2009).

A State Common Core Standards Driven Curriculum to Impact Outcomes for Rural Children

This review of research provides a clear rationale for studies that place increased attention on uncovering strategies for improving teaching, learning and overall cognition for rural

preschool children, especially those from minority, non-white populations (Bailey et al. 2007; Gershoff 2003). Scientifically-based research for improving learning for underrepresented preschool children, and implications for use of the CCSS will be investigated for potential impact on teaching and learning in rural preschool settings. However, an initial overview of proven practices for use in rural early childhood settings to impact learning and cognition for preschool children will be conducted prior to this discussion.

Rural preschool children frequently are affected by economic, social and educational adversities in learning and cognition, especially those who are minority, and in particular, African American. However, there are practices that can serve to counter the negative conditions related to academic outcomes for underperforming, rural children (Bailey 2006a, b, c; Bailey et al. 2007; Bailey and Silvern 2005; Bailey and Swick 2005; Comer 2009; Epstein 2011; Gershoff 2003). Findings indicate that developing a curriculum utilizing (1) children's prior knowledge to stimulate learning connections; (2) home learning assignments aimed at increasing home-school connections; (3) inquiry-based integrated learning activities; and state and national standards imbedded across all aspects of the preschool curriculum (Bailey 2004a, b, 2006a, b, c; Gershoff 2003) ensures that the rural minority child will become adequately engaged in his/her own learning, and that academic outcomes will be maximize. When rural or non-rural preschool teachers engage in substantive formal and informal assessment experiences, and inventory-based observations, individually and in small and large groups, they establish a knowledge-base about preschoolers' prior knowledge which should be used to develop a cohesive and child-centered curriculum. Understanding what children know and are able to do conceptually speaking, enables teachers to develop an appropriate curriculum suitable for bridging the gap between what children know, and what they need to know to later succeed in primary school settings (Bailey 2006a, b, c). Not only are these strategies effective for young children in urban and other non-rural preschool settings generically, they also have implications for improving cognition and learning in rural schools. (Bailey et al. 2007). According to these researchers, when teachers and administrators in rural settings develop curricula that considers students' prior knowledge and focus on increasing family engagement, these efforts collectively impact the young rural child's capacity to improve his own cognition and learning. The developers of the CCSS adamantly suggest that prior knowledge must be considered and not abandoned as educators seek to incorporate best practices for all learners, across a variety of grade levels and settings (Common Core Standards 2013). The following is an important excerpt from this literature related to infusing Common Core State Standards in Mathematics (CCSSM) into K-8 curricula declares: "As the application of the

(distributive) properties is extended over the grades, an understanding of how the properties of operations work together should deepen and develop into one of the most fundamental insights into algebra. The natural distribution of prior knowledge in classrooms should not prompt abandoning instruction in grade level content, but should prompt explicit attention to connecting grade level content to content from prior learning. To do this, instruction should reflect the progressions on which the CCSSM are built.” To summarize, building upon young children’s prior knowledge, and infusing the CCSS might be suitable for addressing learning deficiencies in the early grades, especially for underrepresented learners in rural settings who frequently lack access to quality, cohesively designed curricula.

Increasing home-school connections has also been found to have significant impact on young children’s cognition and learning, and needed to increase school readiness for rural minority children from low-income families (Bailey 2006a, b, c; Bailey and Silvern 2005; Bailey and Swick 2005; Comer 2009; Epstein 2011). According to Epstein (2011), and Bailey and Silvern (2005) when schools make deliberate efforts to understand home environments and family interests, they can better develop curricula and home learning assignments that engage families and increase academic achievement. When families are amply partnered with teachers and school administrators to impact their children’s learning goals, academic outcomes and high school completion rates improve. These strategies can exert a positive impact on learning in rural settings (Bailey et al. 2007), especially when combined with state and national standards across the curriculum.

Imbedding CCSS into in rural preschool programs in a way that allows subject matter to spiral sequentially from year-to-year throughout a child’s preschool experience has a significant, positive impact on the acquisition of specific subject matter, especially in mathematics (Common Core Standards 2013). Researchers found that when intentional efforts are made to infuse CCSSM, starting at preschool, children’s knowledge of algebra improves substantially as a result of a more cohesive curriculum that progressively presents more complex subject matter that focuses on mastery from an initial introduction of the mathematics concept through twelfth grade.

In sum, the conditions for rural underrepresented children are challenging and research focused solely on improving their academic outcomes is sparse. Nevertheless, scientifically-based research for improving conditions for underrepresented youth with similar characteristics (high poverty, low family rates of high-school completion, and low rates of readiness upon kindergarten entry) must be employed to determine if the rates of school readiness and overall academic conditions for preschool children can be positively

impacted. Schools that utilize strategies that include early intervention measures, utilizing the state and national standards as a framework showed significant improvements in overall outcomes in school readiness (Fischer et al. 2013). Additionally, when preschool teachers and families from rural schools were trained to understand and use developmentally appropriate pedagogy and early childhood content, rural children as well as those situated within other contexts matriculated to primary school settings significantly more successfully than their counterparts (Bailey 2006a, b, c; Rural Families Data Center 2010). Therefore, despite the fact that rural preschool children face significant adversities, concentrated efforts focused on the development and implementation of a standards-based curriculum, and incorporating teacher and family training, school readiness significantly improves (Bailey 2006a, b, c; Bailey et al. 2007; Rural Families Data Center 2010; Hirsh-Pasek et al. 2012).

Implications for future research might be to determine whether infusing CCSS into curricula in rural and urban settings improves cognition and learning for Hispanic preschool students from economically at-risk backgrounds, and for African American children from low-income households in urban preschools.

References

- Bailey, L. B. (2004a). Interactive homework for increasing parent involvement and student learning. *Childhood Education, 81*(1), 36–40.
- Bailey, L. B. (2004b). Designing family friendly homework. *Childhood Education, 80*(3), 146I–146M.
- Bailey, L. B. (2006a). Supporting teacher and parent learning using standards-based mathematics training for teachers and parents. *Journal of Early Childhood Education and Family Review, 14*(1), 10–19.
- Bailey, L. B. (2006b). Interactive homework: A tool for fostering parent-child interactions and improving learning outcomes for at-risk young children. *Early Childhood Education Journal, 34*(2), 155–167.
- Bailey, L. B. (2006c). Examining gifted economically at-risk students to determine factors that influence early reading success for economically at-risk students. *Early Childhood Education Journal, 33*(5), 307–315.
- Bailey, L. B., Lomax, M. L., Rucker, R., Harrington, S., Fujimoto, A. C., & Brown, M. C. (2007). *Training up our children: Rural early childhood education and African-American student*. Fairfax, VA: Patterson Research Institute.
- Bailey, L. B., & Silvern, S. B. (2005). Improving teachers’ abilities to design interactive homework assignments. *Journal of Early Childhood Education and Family Review, 12*(4), 15–26.
- Bailey, L. B., & Swick, K. J. (2005). Creating supportive home learning environments for parents and children who are homeless. *Dimensions of Early Childhood, 33*(1), 17–23.
- Bowman, B., & Moore, E. K. (Eds.). (2006). *School readiness and social-emotional development. Preparing for cultural diversity*. Washington, DC: National Black Child Development Institute.

- Capizzano, J., & Fiorillo, A. (2004). *Young children and the rural information gap: The weaknesses of major data sources for examining the well-being of rural children*. MS: National Center for Rural Early Childhood Learning Initiatives.
- Center on the Developing Child at Harvard University (2010). The foundations of lifelong health are built in early childhood. Retrieved from http://developingchild.harvard.edu/index.php/library/reports_and_working_papers/foundations-of-lifelong-health/.
- Comer, J. P. (2009). *What I learned in school: Reflections on race, child development, and school reform*. San Francisco, CA: Jossey-Bass.
- Common Core Standards. (2013). Retrieved from: http://www.corestandards.org/assets/Math_Publishers_Criteria_K-8_Summer%202012_FINAL.pdf.
- Epstein, J. L. (2011). *School, family, and community partnerships: Preparing educators and improving schools* (2nd ed.). Boulder, CO: Westview Press.
- Fischer, L. T., Peterson, T., Bhatta, T., & Coulton, C. (2013). Getting ready for school: Piloting universal prekindergarten in a rural county. *Journal of Children Placed at Risk*, 18(2), 2–18.
- Freire, P. (2000). *Pedagogy of freedom: Ethics, democracy, and civic courage*. Lanham, MD: Rowman & Littlefield.
- Gershoff, E. (2003). *Low income and the development of America's kindergartners*. New York: National center for children in poverty. *Measuring rurality: Rural-urban continuum codes*. Retrieved from <http://www.ers.usda.gov/briefing/rurality/RuralUrbCon/>.
- Grossman, M. (2007). Education and non-market outcomes. In E. Hanushek & F. Welch (Eds.), *Handbook of the economics of education* (pp. 577–633). Amsterdam: North-Holland.
- Johnson, J., & Strange, M. (2009). *Why rural matters 2009: State and regional challenges and opportunities*. Arlington, VA: The Rural Schools and Community Trust.
- Johnson, J., Strange, M., & Madden, K. (2010). *The rural dropout problem: An invisible achievement gap*. Arlington, VA: The Rural School and Community Trust.
- Mattingly, M. J., & Stransky, M. L. (2010). *Young child poverty in 2009: Rural poverty rate jumps nearly 29 percent in second year of recession. (Issue Brief No. 17)*. Durham, NH: Carsey Institute. Retrieved from <http://www.carseyinstitute.unh.edu/publications/IB-Mattingly-childpoverty10.pdf>.
- NAEYC Position Statements on School Readiness and Related Issues. (2009). Retrieved from <http://www.naeyc.org/files/naeyc/file/positions/Readiness.pdf>.
- National Center on Quality Teaching and Learning. (2012). Retrieved from <http://eclkc.ohs.acf.hhs.gov/hslc/tta-system/teaching>.
- Peterson, K. (2005). *NCLB goals and penalties*. Retrieved March 14, 2013 from <http://www.stateline.org/live/ViewPage.action?siteNodeId=136&languageId=1&contentId=41611>.
- Pianta, R. C., Cox, M. J., & Snow, K. L. (Eds.). (2007). *School readiness and the transition to kindergarten in the era of accountability*. Baltimore, MD: Brookes.
- Redding, S., & Walberg, H. J. (2012). *Promoting learning in rural schools*. Academic Development Institute. Lincoln, IL: USDE, Office of Elementary and Secondary Education.
- Rural Families Data Center. (2010). *Strengthening rural families: America's rural children*. Washington, DC: Population Reference Bureau.
- Snow, C. E., Burns, M. S., & Griffin, P. (Eds.). (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.
- Snow, C. E., Burns, M. S., & Griffin, P. (1999). Language and literacy environments in preschools. *ERIC Digest. ERIC Clearinghouse on Elementary and Early Childhood Education*.
- Hirsh-Pasek, K., Russell, B., Meisels, S., Thornburg, K. & Sachs, J. (2012). *The state common core standards: Caution and opportunity for early childhood education*. Washington, DC: National Association for the Education of Young Children, USA.
- United States Department of Agriculture, Economic Research Service. (2013). Retrieved from <http://www.ers.usda.gov/data-products/atlas-of-rural-and-small-town-america.aspx#.UhOZkBakbbk>.
- United States Department of Commerce: United States Census Bureau. (2010). Retrieved from <http://www.census.gov/#>.
- Walberg, H. J., & Marjoribanks, K. (1973). Differential mental abilities and home environment canonical analysis. *Developmental Psychology*, 9, 363–368.