Early childhood care and education are important to the learning and development of children. High quality educational opportunities have long-term, measurable consequences for later life chances. Considerable research shows the value of investment in prenatal care, parenting education, and high quality preschool exposure—with economically disadvantaged children’s benefitting the most. Much remains to be learned about what constitutes high quality, but studies show more durable impacts when programs are specific, intense, and targeted to multiple domains of learning (e.g., cognition, language, self-regulation) and based on the science of learning and teaching. Although early childhood education does not inoculate children from later adversity, it does enable learning and development and provides a buffer to risk.

Why should we be concerned with education prior to kindergarten?

- The first five years are a time of rapid learning and development, setting the foundation for later success or failure (Fox & Rutter, 2010; Wachs & Gruen, 1982). Cognitive, social, emotional, and physical development are influenced positively and, for far too many, negatively by physical and social environments from conception through the early years (Blair & Raver, 2012; Nelson & Sheridan, 2011; Shonkoff et al., 2012).

- Parents are the most important influences on young children, but most preschoolers spend significant time in the care of other adults (Ermisch, 2008; Hart & Risley, 1995; Pianta et al., 2009). These informal and formal care and education arrangements significantly shape early learning and development (Yoshikawa et al., 2013).

- Inequalities in early educational opportunities contribute to surprisingly large inequalities in learning and development by kindergarten entry (Barnett & Lamy, 2013). Gaps in knowledge and skills at kindergarten entry are large enough to account for all of the school-age achievement gap by income (Reardon, 2013). Inequality in parental investments in the early years has been increasing, leaving behind not just children in poverty but those in middle-income families (Smeeding, 2016).

- By improving early experiences and development, high quality early education can improve such adult outcomes as educational attainment, employment and earnings, as well as avoidance of risky behaviors and crime and even serious health problems (Reynolds & Temple, 2008; Yoshikawa et al., 2013).

- Children’s experiences after they enter school also influence learning and development, and remediation is possible, but the large preschool development gaps and other problems created by adverse early experiences are difficult and expensive to overcome later (Howard-Jones, Washbrook, & Meadows, 2012; Smeeding, 2016; Thomas, 2012).
What do we know about how to improve early learning and development?

- Access to high-quality early care and education is low and unequal (Smeeding, 2016). Many children from low- and moderate-income families do not attend even one year of preschool education, and if they do quality is rarely high (Nores & Barnett, 2014).

- Public investments in young children from better prenatal care and parenting education to high-quality education in child care and preschools can improve early learning and development, with positive benefits continuing through school into adulthood (Barnett, 2011a; Conti & Heckman, 2013; Olds, 2013; Smeeding, 2016).

- Children in economically disadvantaged families tend to benefit the most from added investments, including high-quality preschool education, but children from more advantaged circumstances have been found to benefit as well (Barnett, 2011b; Tucker-Drob, 2012; Yoshikawa et al., 2013).

- Effects on test scores and other measures of development tend to decline after children exit preschool programs and enter public schools (Camilli et al., 2010). Partly this may be due to compensatory services for those who did not attend, thus narrowing the gap. IQ gains, in particular, do not persist. But gains in achievement (subject matter specific knowledge and skills) persist more often, and other long-term educational benefits are commonly found, including decreased grade repetition, decreased special education, and increased educational attainment (Barnett, 2011a; Kay & Pennucci, 2014; Yoshikawa et al., 2013).

- Some programs have been much more effective than others in producing both immediate and sustained improvements in learning and development (Duncan & Magnusson, 2013; Yoshikawa et al., 2013). In particular, only relatively high quality programs have produced large, sustained benefits.

- Earlier opportunities to learn a second language tend to result in greater proficiency (Dixon et al., 2012; Thomas, 2012). Supports for dual language learners are important to promote English language proficiency while promoting the home language, which has numerous intrinsic and instrumental benefits (Barac et al., 2014; Castro et al., 2011; Garcia & Frede, 2010; Yow & Lee, 2015).

- Early education is not an immunization against later adversity or inadequate educational investment. Learning and development continue to be strongly influenced by experience through adolescence (Howard-Jones et al., 2012; Protzko, 2016; Thomas, 2012).

What are the characteristics of the most effective programs?

- The largest and most persistent impacts have been found for small-scale programs in well-designed, highly controlled studies (Barnett, 2011a). These programs have had excellent teachers who are well-compensated, very small classes, strong and well-implemented curriculum, and expert data-based feedback to teachers on their practice (Frede, 1998).

- Associations between structural features (teacher qualifications and class size) and child outcomes are weak and inconsistent, while observed teaching quality is modestly associated with child gains; at best, structural features are necessary, but not sufficient (Pianta et al., 2009). Nevertheless, the large-scale public programs found to produce larger, persistent
effects more strongly resemble the highly effective small-scale programs with respect to both structure and teaching quality (Minervino, 2014).

- Preschool programs that address multiple domains of learning and development with sufficient specificity (cognition, language, social skills and behavior, and emotional self-regulation) produce larger effects on more outcomes, which likely leads to more durable impacts on school and adult life success (Schindler et al., 2015; Thomas, 2012; Yoshikawa et al., 2013).

- Specific research-based suggestions to improve outcomes include: increasing attendance (and decreasing absenteeism), a greater focus on intentional teaching, stronger curricula, and the use of continuous improvement systems that include individualized teacher coaching (Arbour et al., in press; Camilli et al., 2010; Duncan & Magnusson, 2013; Yoshikawa et al., 2013).

- Programs that serve all children are more costly but may be more effective. They reach more children in need, do not stigmatize the poor, offer richer peer learning opportunities, and may garner more public support for the quality needed to produce strong results (Barnett, 2011b).

**How does research inform public policy?**

- High quality early care and education should be viewed as one of a set of policies designed to enhance learning and development beginning at conception (Smeeding, 2016; Yoshikawa et al., 2013). Every year matters, and it is never too early or too late to invest in education.

- Expectations for the outcomes of high quality early care and education should be high but realistic. More recent studies find smaller effects than older studies. It seems likely that broad societal improvements for disadvantaged children—in home environments (e.g., better educated parents), public support for early care and education, health care and social services, and K–12 education—make it more difficult for preschool studies to show the same level of dramatic effects today that studies did 25 to 50 years ago (Duncan & Magnusson, 2013). This suggests that today’s programs should be even more intensive and high quality than older programs.

- To produce substantive and lasting impacts on learning and development, public programs must be intensive and high quality. Most state-funded preschool programs are not. The federal Head Start program has been improved as a result of the 2007 reauthorization and reforms implemented by both Republican and Democratic administrations. But more remains to be done, including better supports for teachers and teaching, plus expanded hours (Barnett, 2013).

- Supporting high-quality practice in the classroom on a large scale requires systemic policies with high expectations for learning and teaching, strong curriculum, rigorous assessment of learning and teaching, and the use of data to inform continuous improvement at every level from the individual teacher and classroom to state departments of education and the federal government (Minervino, 2014; Pianta et al., 2009; Yoshikawa et al., 2013).

- Much remains to be learned about what constitutes high quality and how best to produce it. We should prioritize research to advance this knowledge. However, much better results could be obtained if state and federal policy aligned more closely with the large scale
programs that research has indicated are more effective than most, including the Child Parent Centers, New Jersey’s Abbott preschools, and well-studied programs in North Carolina, Boston and Tulsa (Barnett et al., 2013; Minervino, 2014; Muschkin, Ladd, & Dodge, 2015; Reynolds & Temple, 2008; Weiland & Yoshikawa, 2013). A universal program of such quality could substantially reduce achievement gaps at kindergarten entry (Friedman-Krauss et al., in press).

References


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