Executive Summary

Programs and policymakers face numerous challenges as they develop and implement professional development strategies for the early childhood workforce. The field lacks consistent standards and requirements for professional preparation, and, as a result, low levels of education and a minimum of specialized training in early childhood education are the norm. Less than one-third of the institutions of higher education offering two- and four-year degrees have programs in early childhood education, and those programs that exist must address the needs of nontraditional students who are likely to be juggling family and work responsibilities and logistical issues that make it difficult to attend class and complete course requirements (Early and Winton 2001). And, low wages and benefits for early childhood educators are linked to high turnover of staff in both center-based and home-based programs.
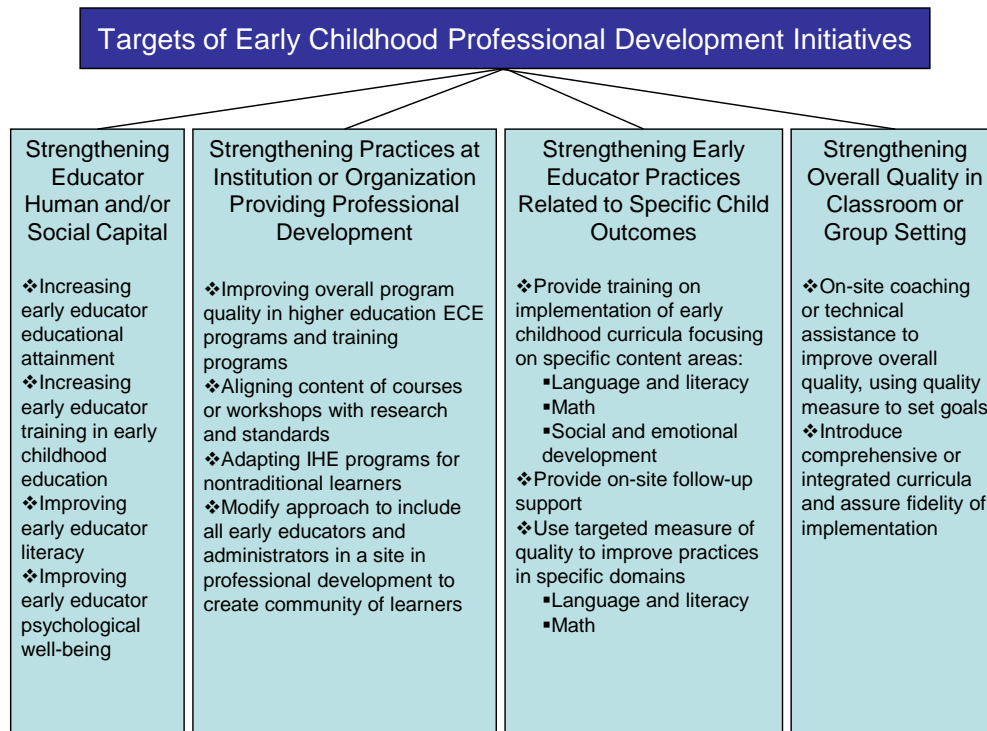
Yet, policymakers and parents have high expectations for the early childhood field and the children who are cared for in early childhood settings. There is an increasing recognition that the relationship a child has with a teacher or caregiver that is both sensitive and stimulating is the central and most critical component of quality in early care and education (National Research Council and Institute of Medicine, Shonkoff, and Phillips 2000). In a comprehensive review of what is known about how young children learn and develop and the implications of this knowledge for the care and education of children, the Committee on Early Childhood Pedagogy concluded, "There is a serious mismatch between the preparation (and compensation) of the average early childhood professional and the growing expectations of parents and policy makers" (National Research Council 2001, p. 261). Current strategies of professional development do not adequately prepare all educators for the array of responsibilities, knowledge, and skills they are expected to demonstrate in their work with young children and their families.

Methods

This review incorporates findings from research on four *targets* of early childhood professional development: 1) strengthening human or social capital; 2) strengthening practices at institutions or organizations providing professional development; 3) strengthening early educator practices related to specific child outcomes; and, 4) strengthening overall quality in classroom or group settings (see Figure 1). Research in each target area was reviewed, and for the two last areas (on specific content areas and overall quality of education and care for young children) for which there is a body of evaluation research, details about the specific studies were analyzed.

The literature review analyzed the research on professional development of early childhood educators to work toward identification of a set of core features that characterize effective professional development.

Figure 1. Targets of Early Childhood Professional Development Initiatives

Targets of Early Childhood Professional Development Initiatives			
Strengthening Educator Human and/or Social Capital	**Strengthening Practices at Institution or Organization Providing Professional Development**	**Strengthening Early Educator Practices Related to Specific Child Outcomes**	**Strengthening Overall Quality in Classroom or Group Setting**
❖Increasing early educator educational attainment ❖Increasing early educator training in early childhood education ❖Improving early educator literacy ❖Improving early educator psychological well-being	❖Improving overall program quality in higher education ECE programs and training programs ❖Aligning content of courses or workshops with research and standards ❖Adapting IHE programs for nontraditional learners ❖Modify approach to include all early educators and administrators in a site in professional development to create community of learners	❖Provide training on implementation of early childhood curricula focusing on specific content areas: ▪Language and literacy ▪Math ▪Social and emotional development ❖Provide on-site follow-up support ❖Use targeted measure of quality to improve practices in specific domains ▪Language and literacy ▪Math	❖On-site coaching or technical assistance to improve overall quality, using quality measure to set goals ❖Introduce comprehensive or integrated curricula and assure fidelity of implementation

Note:
ECE: Early Childhood Education
IHE: Institutions of Higher Education

The research team gathered relevant materials for the review (1) by conducting database searches using strategic search terms; (2) by pursuing sources included in earlier reviews; and (3) by following up on leads of relevant work suggested by the project officers and members of the Technical Work Group.

Various combinations of the following key words were used as criteria for inclusion: professional development; training; preschool teachers; curriculum; literacy; language; early; prekindergarten; preschool; day care; child care; preschool age group. The following databases were searched for relevant articles: (1) Child Care and Early Education Research Connections (CCERC); (2) Educational Resources Information Center (ERIC); (3) National Child Care Information Center (NCCIC); (4) Psychology and Behavioral Sciences Collection; (5) PsycInfo; (6) Social Sciences Abstracts; and (7) Sociological Collection.

The evaluation studies in the third and fourth target areas were subject to the following inclusion criteria:

- *Peer-reviewed Journals, Edited Volumes, or Government Report of Evaluation Studies*—In order to be summarized in both text and table, a study had to have gone

through a rigorous review process, by being published in either a peer-reviewed journal or in an edited volume, or reported on in a reviewed government report.

- *Rigor of Evaluation*—Evaluations summarized in both text and table were rated as falling in one of five different methodology levels, including experimental, quasi-experimental, pre-post with comparison group, pre-post without comparison group, and descriptive. Although relying strictly on experimental evaluations would have been preferable, the relative infrequency of these evaluations forced reviewers to include all relevant evaluations, and to consider the rigor when weighing and comparing results.

- *Age Range*—Evaluations of professional development programs involving children from birth through kindergarten were included in the review. Most of the studies reviewed pertained to children in the 3–5 age range.

- *Early Educator*—For the purpose of the review, "early educator" included preschool teachers, prekindergarten teachers, kindergarten teachers, and child care staff caring for children 0–5. Educators in both private and public settings were included. Workers in family child care settings were not excluded from the review, although few evaluations focused on these environments.

- *Professional Development*—Evaluations included in the review had to include some form of professional development as part of the treatment intervention. For example, they had to include credit bearing classes, training on a curriculum, in-class coaching, or other activities aimed to improve educators' knowledge of child development or practice in the classroom or home-based child care setting.

- *Assessment of Effectiveness*—Evaluations had to measure or evaluate changes in at least one of three key areas: early educator knowledge; practice; and child outcomes.

For each document reviewed summary tables were prepared (see Appendix A) summarizing the study findings in tables focusing on *study methodology* (research questions, research design, sample, measures, rigor of the evaluation), *content of professional development* (mode of delivery, linkages with infrastructure such as state early learning standards, temporal aspects of the professional development such as number, frequency and length of sessions, outreach approach for example to including providers in low income areas, research base of the professional development approach, description of the content or curriculum used in the professional development), and *outcomes* (outcomes for educator knowledge, for educator practice and for children's development).

Also summarized are the extent and rigor of the evidence for each of the four identified targets of early childhood professional development, emerging patterns of findings and their implications, and notes on research needs.

Findings

With input from the Technical Work Group for this project, it was determined that the research on early childhood professional development is at an early stage. Much of the

research is descriptive and correlational rather than involving rigorously executed experimental studies. When evaluations have been carried out, the focus is much more on curricula and their implementation than on the preparation of early childhood educators to use them. Significant questions remain about which features of professional development for early childhood educators, singly and in "packages," are most effective for improving both educator and child outcomes.

The literature does point to an initial set of conclusions that can serve as a starting point toward the identification of effective practices in early childhood professional development. These initial conclusions are in accord with the conclusions of the Committee on Early Childhood Pedagogy (National Research Council 2001) and the findings from other evaluations of professional development programs (Epstein 1993; Garet et al. 1999). These initial conclusions can serve as hypotheses for future work. The evidence suggests that professional development for early childhood educators may be more effective when:

- *There are specific and articulated objectives for professional development.* A meta-analysis of studies in which there was "specialized caregiver training with a focus on interaction skills with children" found a statistically significant effect of specialized training on caregiver competence overall, with a medium effect size ($d=.45$) (Fukkink and Lont 2007, p. 297). When the content of the training was more specific, rather than open in content, effects on early educator practice were larger (Fukkink and Lont 2007). Use of an observational measure of quality can help to provide specific and articulated goals for quality improvement (QUINCE Research Team 2009). The content of the measure of quality chosen to guide efforts needs to be aligned with the areas of practice in which improvement is sought and the child outcomes considered of importance (Zaslow et al. April, 2009, under review). Consensus documents that summarize research about what is appropriate and important for young children to know in the areas of language and literacy and early mathematics provide a strong research basis for developing appropriate curricula and approaches for preparing early educators to implement the curricula (National Reading Panel 2000; Snow, Burns, and Griffin 1998; National Early Literacy Panel 2008).

- *Practice is an explicit focus of the professional development, and attention is given to linking the focus on early educator knowledge and practice.* Multiple studies are reviewed which focused not only on strengthening early educator knowledge but on strengthening practice. This emphasis is in keeping with the principles of adult learning summarized by the National Research Council (National Research Council 2001). In the studies reviewed, such approaches usually combined course work or training with individualized modeling and feedback on interactions with children in the early educator's classroom or home-based care setting. However, in some instances, the professional development involved only the individualized on-site component. In others,

the individualized modeling and feedback was provided through the Internet rather than on-site, or practice in applying new techniques was incorporated directly into course work or training without on-site modeling and feedback (Assel et al. 2007; Campbell and Milbourne 2005; Clements and Sarama 2008; Dickinson and Brady 2006; Dickinson and Caswell 2007; Fantuzzo 1996; Fantuzzo et al. 1997; Gettinger and Stoiber 2007; Landry 2002; Neuman and Cunningham 2009; Palsha and Wesley 1998; Pianta et al. 2008; Raver et al. 2008). Not all evaluation studies involving individualized professional development showed positive effects on practice or child outcomes, yet there is promising evidence for these approaches. It is important to identify the specific processes underlying positive effects in practice-focused professional development approaches (Zaslow 2009; Smith et al. 2001). More thought is being given to the issue of whether or not the presentation of information through course work or training alone is effective in changing early educator practice and child outcomes (Burchinal, Hyson, and Zaslow 2008; Early et al. 2007), or whether professional development aimed at strengthening knowledge needs to be closely tied to practice. (see for example, the discussion of timing of training and practice opportunities and intentional interspersing of group training and opportunities for application in Dickinson and Brady 2006).

- *There is collective participation of teachers from the same classrooms or schools in professional development*. Joint participation can help to support a professional culture and ensure the sustainability of new techniques and skills. Professional development that includes administrators helps to assure that early educators do not receive contradictory messages about what practices to implement or emphasize. Likewise, including teachers of different age groups or grades can foster continuity in the children's experiences as they move through classrooms in the future (Baker and Smith 1999; Assel et al. 2007; Burchinal, Hyson, and Zaslow 2008; Donovan, Bransford, and Pellegrino 1999; Birman et al. 2000; Bierman et al. 2008).

- *The intensity and duration of the professional development is matched to the content being conveyed*. The appropriateness of the length of time spent in professional development activities depends on the goals of the activities themselves. A one-time workshop is not effective if the goal is to convey theory and practice to improve multiple aspects of early language and literacy development, such as oral language, phonological awareness, alphabetic principle, and awareness of print. It may, however, be appropriate for preparation on a single specific activity or strategy (Whitehurst, Arnold et al. 1994; Donovan, Bransford, and Pellegrino 1999; Raikes et al. 2006).

- *Educators are prepared to conduct child assessments and interpret their results as a tool for ongoing monitoring of the effects of professional development*. Assessments can help early childhood educators view their knowledge and skills as contributing to improvement in children's outcomes, and can serve as a source of feedback for how to target instruction overall and

for individual children (Foorman and Moats 2004; Garet et al. 2008; Gettinger and Stoiber 2007; O'Connor et al. 2005).

- *It is appropriate for the organizational context and is aligned with standards for practice.* The effectiveness of professional development approaches will differ according to features of organizational context, articulated standards for practice and with the extent of ongoing monitoring and supervision (Vu, Jeon, and Howes 2008; Fulgini et al. 2009). Increasingly, approaches to professional development also need to take into account state standards regarding pedagogy (for example in early language and literacy, Roskos et al., 2006; and early learning guidelines, Strickland and Riley-Ayers, 2006).

As noted above, a number of gaps were identified in the research on early childhood professional development that need to be addressed:

- Coordinated secondary analyses carried out with the data from seven major studies of early care and education provide little indication of stronger observed classroom quality or larger gain scores on children's academic achievement when early educators had completed a higher education degree, according to the highest education level among those with an early childhood major, or according to whether those with a bachelor's degree had an early childhood major (Early et al. 2007). The quality of the educators' degree-granting higher education programs could not be examined in these analyses and may be an important underlying factor (Burchinal, Hyson, and Zaslow 2008; Hyson, Tomlinson, and Morris 2008). We are only beginning to see evaluations of planned variations in higher education approaches for early childhood educators. There is a clear need for careful examination of the features and overall quality of higher education programs. We need to ask if higher education programs that incorporate specific course content and approaches are associated with stronger outcomes.

- The literature tends to focus on the content that should be conveyed to children, rather than on the specific processes that can be used to guide early educators in implementing practices to convey or engage children with this content effectively (Sheridan et al. 2009).

- The literature does not adequately address the issue of cultural and linguistic competence for early childhood educators. This review did not reveal any peer-reviewed articles that examined or evaluated professional development strategies to improve cultural and linguistic competence despite the growing diversity of the early childhood population. Early childhood educators are calling for improvements in their preparation on these topics and are looking for strategies to improve their abilities to address the needs of diverse children and families (Daniel and Friedman 2005). Strategies to improve teacher preparation in cultural and linguistic competence cited by Daniel and Friedman (2005) include increasing faculty knowledge and willingness to adapt and respond to the diversity in early childhood education, requiring

practica and internships in diverse settings, integrating issues of diversity into course content, and requiring Teachers of English to Speakers of Other Languages (TESOL) courses for teachers. There is a need for research focusing on the effectiveness of these strategies.

- Further focus is needed on the language and literacy skills that early educators bring to their work, and possible approaches to strengthening these. Although low literacy is not universal among early care and education providers, and may vary by the requirements for those working in different types of early care and education settings (such as child care, Head Start and pre-kindergarten), the 1992 National Adult Literacy Survey found that between 44 percent and 57 percent of child care workers perform at the lowest levels of proficiency on standardized literacy assessments (Kaestle et al. 2001). A more recent study of child care providers in Alameda County, Calif., indicated that almost one-third (31 percent) of the providers in that county had "limited proficiency" in English, based on their scores on the Test of Applied Literacy Skills (TALS) (Phillips et al. 2003). Research is needed focusing on the potential of professional development to strengthen the spoken language and literacy skills of early childhood educators. For children who are dual language learners, consideration should be given to the language and literacy skills of educators in both the child's home language and English.

- The literature focuses heavily on professional development for educators working in center-based settings including Head Start and prekindergarten programs. Yet, this group of educators constitutes only 24 percent of the workforce. The majority of paid educators in early childhood care and education work in licensed (28 percent) and unregulated (48 percent) home-based settings (Burton et al. 2002). Home-based early educators often have less formal education and access to training opportunities and serve more and larger percentages of low-income children than educators working in center-based settings., It is important to consider strategies to improve the professional development of those working in home-based as well as center-based settings, and to conduct rigorous evaluation research across both types of settings (e.g. Neuman and Cunningham 2009).

- Likewise, the literature emphasizes professional development for educators working with preschool-age children: most of the studies covered in this review focused on children in the year or two years before entry into kindergarten. There is a need to expand understanding of the strategies that are most effective for educators working with infants and toddlers.

- Further research is needed on how best to target professional development approaches, both in terms of timing (whether the professional development is offered preservice or in-service) and in terms of the settings the early educators work in (prekindergarten within public schools, prekindergarten in

community-based settings, Head Start, center-based child care, and home-based child care). Different professional development approaches may be more effective when included as part of early educators' preservice preparation or alternatively once they are already working in early childhood settings, and for early educators working in particular settings.

- The methods and analytical strategies used in evaluations of professional development need more rigor. There is a small but growing body of experimental studies contrasting different professional development strategies. Effect sizes are rarely reported in the literature, and provisions are often not made to account for the "nested" nature of studies that include children within classrooms within programs.

- A final gap to note in the literature is the need for further work on integrating content across topical areas. For example, how should early childhood educators blend early literacy, math and social behavior strategies to achieve the best results for children? What professional development strategies are most effective at helping teachers balance multiple content areas to create learning environments that promote development of the "whole child"? This is a challenge for the next generation of studies on professional development for early childhood educators.