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Reading, Reasoning, and Literacy: Strategies for Early Childhood Education From the Analysis of Classroom Observations

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Abstract Researchers have posited that children generally learn to read in environments that are trusting, comfortable, and offer small group or one-to-one adult support, all of which are characteristics of a high quality early childhood education program. This evaluation research study examines the Pre-Kindergarten Incentive Program, an early childhood demonstration program in Washington, DC designed to study several urban community-based sites. The authors facilitate a discourse on how all early childhood education programs can become high quality programs through standardized observations, evaluations, and constructive feedback. The article describes the demonstration program, highlights general findings from standardized classroom observations, discusses areas needing improvement, and presents strategies for addressing areas of challenge. It will reveal to early childhood educators how evaluation findings can improve teaching and learning techniques and environments in early childhood programs. The goal is to promote overall improvement in reading, reasoning, and literacy for children enrolled in early childhood programs and thereby better prepare them for kindergarten.

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Universal pre-kindergarten has become a major initiative in early childhood education. Those "for" universal pre-k argue that pre-k services serving a broader population generate a greater net economic return than programs targeting only poor children (Barnett et al. 2004) and that providing pre-k for all children in the United States would yield about an $8 return for every dollar spent (Lynch 2007). Proponents also contend that expanding access to state-funded, high quality pre-k provides middle class parents with more early education options (Wat 2008) and reflects the principles already embedded in public schools (Doggett and Wat 2010). Still, others argue that high quality universal pre-k can impact the nation's international rankings by improving US performance on international assessments like the 2009 Program for International Student Assessment (Frede and Barnett 2011). Those "against" universal pre-k claim that the overwhelming majority of three- and four-year-olds already have access to various forms of preschool, that children in greatest need of serious help in their early years are a relatively small population, and that the early childhood education community has not entirely accepted the concept of school readiness even though that is the main argument of any sort of publicly funded pre-k program (Finn 2010).

International organizations focused on promoting the education and development of children (e.g., Association for Childhood Education International (ACEI) and World Organization for Early Childhood Education) have standards in place to ensure that young children receive an appropriate, quality education in a variety of settings.

AECI's mission is to promote and support the optimal education and development of children from birth through early adolescence in a global community and to influence the professional growth of educators and the efforts of others who are committed to the needs of children in a changing society. The standards highlight several areas that must be considered in providing a comprehensive network of early childhood services that offer learning and care for children in the next century. One example is the *Curriculum, Content, and Pedagogy* standard that emphasizes experiences, routines, and interactions that occur in each child's day in group settings and in family care (Association for Childhood Education International 2011).

The District of Columbia's educational leadership took advantage of lessons learned from other programs across the country and internationally to establish a high-quality, comprehensive, demonstration early care and education project that draws upon empirical research and best practice (Kamara et al. 2004). The District of Columbia has seen a higher rate of budgetary increase for pre-k over the past decade than most states and continues to keep up the momentum to improve quality and access to pre-k for all children in the District of Columbia. In 2008, the District of Columbia City Council unanimously passed the Pre-k Enhancement and Expansion Act. This initiative is intended to create high-quality universally available pre-kindergarten education services in the District through a mixed delivery system which includes community-based organizations, public schools, charter schools, and Head Start programs (Office of the State Superintendent of Education 2009). But what constitutes high quality pre-kindergarten practice that makes it more valuable to children, society, and the nation than high-quality child care? In Washington, D.C., the city's educational leadership launched the Pre-Kindergarten Incentive Program consisting of a standards-based demonstration pre-kindergarten program for three- and four-year-olds in community-based settings to attempt to answer this question. An evaluation team of social scientists and educational professionals was assembled to determine if high quality was being achieved. Using systematic classroom observations, some critical elements in teaching strategies were identified. Among these elements, reading and reasoning instruction were critical, and certain practices seemed particularly important. The research-based findings from the first 2 years of this demonstration project provide some practical guidelines for teachers and administrators engaged in early childhood education.

The Pre-Kindergarten Incentive Program

The program developers of the early childhood demonstration program insisted on several common components across all sites.[1] They required that sites have accreditation from a national organization; a standards-based curriculum aligned with the District's Early Learning Standards that provided learning experiences connecting children's social, emotional, and cognitive development, delivered in small classrooms; highly qualified teachers and teacher assistants;[2] technical assistance and ongoing professional development training for all teaching staff; parental involvement and community engagement; support for English language learners and their families; comprehensive health and early diagnostic screenings with effective follow-up services; nutritious meals; and rigorous, professional evaluation (Kamara et al. 2004) (see Fig. 1).

The demonstration program offers a full year of services to children enrolled and requires providing at least 6.5 h of daily instructional services for a total of 180 full days. The sites where these pre-k programs are located varied, including for-profit, non-profit, government-based, and faith-based settings.

Observation Findings

The evaluation/research team used two observation tools to measure the quality of classroom language and literacy practices and materials, and the quality of spatial, programmatic, and interpersonal features of the classroom environment: the Early Language and Literacy Classroom Observation (ELLCO) and the Early Childhood Environment Rating Scale-Revised Edition (ECERS-R).

According to the ELLCO results, the general classroom environment improved from the first year to the second year, demonstrating good quality. Improved scores in the second year were in the areas of *organization of the classroom*, *opportunities for child choice and initiative*, *classroom management strategies,* and *classroom climate*. Average scores in the basic range were in the areas of *contents of the classroom* and *presence and use of technology*.

The language, literacy, and curriculum scores of ELLCO increased slightly from first year to second year with the average percentage score remaining in the basic range. These areas include: *oral language facilitation*, *presence of books, approaches to book reading, children's writing, curriculum integration, recognizing diversity, facilitating home support for literacy*, and *approaches to assessment*.

[1] In its first year, the demonstration program served 336 children in 21 classrooms at 16 community-based setting; in its second year, the program served 419 children in 28 classrooms at 17 community-based sites.

[2] Teachers were required to have an associate's degree and to be working toward a bachelor's degree; teacher assistants were required to have a Child Development Associate (CDA) credential and to be working toward a higher degree.

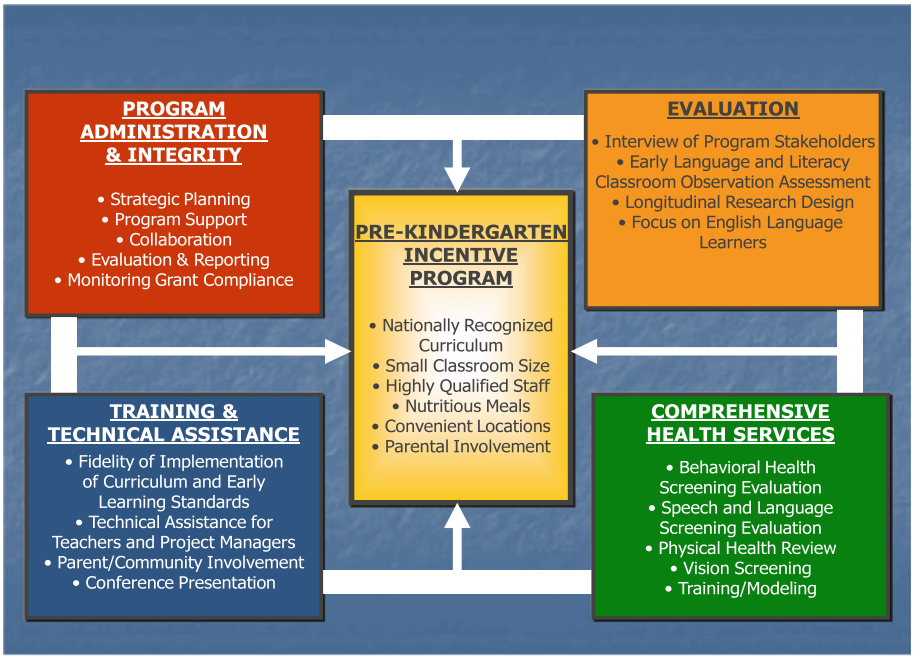

Fig. 1 Model of the Pre-Kindergarten Incentive Program

Here, the evaluation team found significant progress in reading and literacy areas with several exemplary cases, although substantial unevenness led to suggestions for improvement in this area.

In the second year of the program, according to the ECERS-R spring data, on average, the classrooms were in the good quality range, meaning that program staff met the basic dimensions of developmental care for *space and furnishings*, *personal care routines*, *language-reasoning*, *activities*, *interaction*, *program structure*, and *parents and staff*.

Within this generally successful implementation of high quality early childhood education, the observations suggested that special attention needed to be placed on certain aspects of pre-kindergarten classrooms.

Book Reading

Classroom observation findings showed that more time for book reading needed to occur, including sufficient time for shared book reading. Informal opportunities for one-on-one and small group book reading also needed to take place during the day, and books related to the current classroom theme needed to be available for children to read independently. The evaluation team observed one creative teacher implementing informal reading opportunities by reading a book to a group of students in an area outside of the restroom as the children took turns using the bathroom.

Approaches to Writing

While classrooms often had writing tools available for children's use, more materials needed to be evident to improve student achievement, such as word cards and alphabet stencils; and more materials, such as children's writing and teacher dictation needed to be displayed around the room. Opportunities needed to be available for children to write and provisions needed to be made for instruction in writing, such as an adult modeling or helping a child to form letters. One such creative writing technique observed in several classrooms was a daily sign-in log for students to write their names as they enter the classroom in the morning.

Activities

The classroom observations suggested that more attention needed to be paid to increasing the availability and variety of materials in the nature/science, math/numbers, sand/water, and technology areas. Improvements needed to be made to promote acceptance of diversity by providing more books, pictures, and materials to represent different ages, abilities, cultures, and races.

Contents of the Classroom

Links among materials and activities in the centers needed to be arranged so as to purposefully engage children in active learning. Contents of the classroom needed to consist of displays of children's work related to the current theme or activities. Such displays reinforce the children's contribution to the learning environment. At one site, children's science projects created, with the help of parents, were displayed around the classroom, and excited the children as they engaged in conversations about their visible work.

Language-Reasoning

At the pre-k level, language-reasoning develops through ongoing communication and includes concept development, quality feedback, language modeling, and logical relationships. In using language to promote reasoning and higher-order thinking skills, successful teachers in the demonstration sites used quality instructional discussions and activities in contrast to rote instruction. They also provided quality feedback that expanded learning, encouraged student language, engaged in frequent conversations, asked many open-ended questions, and used advanced language with students. The teacher in one classroom with a theme on China prepared for a field trip to Chinatown using the KWL teaching strategy that helped students recall what they **k**new, determined what they **w**anted to learn, and identified what they **l**earned. The teacher asked students to predict what they thought they would see on their trip, and had them compare these expectations to what they actually saw on their trip. This high-quality language activity extended students' language-reasoning by encouraging children to reason using actual events and experiences, and also allowed teachers to introduce concepts in response to children's interests.

Evaluators detected from their classroom observations, however, that few teachers successfully encouraged children to communicate by balancing listening and talking appropriately, linking children's spoken communication with written language, assisting children with reasoning throughout the day by using actual events and experiences, and introducing concepts in response to children's interest or need to solve problems. In some cases, children were not asked questions to encourage them to give longer and more complex responses. Thus, even well-credentialed teachers needed professional development to improve outcomes with their students.

Strategies to Enhance Pre-K Instruction

The application of evaluation research findings to practice can help teachers identify good strategies for improving student outcomes. Five strategies for classroom practice emerged from the research of the evaluation team.

Provide Timely Face-to-Face Feedback of Results to Teachers

Feedback from evaluators can provide teachers with information that they can use to change or sustain their actions or responses. For program staff to be motivated by the discrepancy between "where they are" and "where they want to be," they must know their current status and how far they have to go to improve. Evidence suggests that feedback emphasizing progress is most effective (Dewitt and Ormrod 2007). Furthermore, for teachers, feedback that is regular and specific encourages the development of more effective instructional strategies (Feeney 2007).

During the program year, assessments at program sites included the administration of classroom observations, curriculum-based assessments, interviews, and focus groups. The results from the observation assessments were valuable to program staff because they provided information and feedback on programming and identified whether staff were meeting program goals and objectives. Using external evaluators rather than school or agency staff enhances the credibility of the feedback and reduces the barriers that otherwise might limit acceptance of the feedback.

Program staff asserted that they not only wanted to receive feedback from the assessment process but also wanted this feedback to be timely so that dynamic modifications to classroom instruction and quality could be made. In response, service providers developed face-to-face assessment "report card" meetings at each program site to give site-specific feedback from biannual classroom observations. User-friendly report cards highlighted areas of strength and weaknesses (see Fig. 2).

All staff from the program sites and service providers (including administrators) attended the report card meetings, which were organized to be non-threatening in format and convenient in location and time for all stakeholders. The expressed aim of the report card meetings was to provide specific feedback to program staff with instructive strategies for areas needing improvement. First, areas of strength were highlighted; acknowledging staff for their good work, followed by instructional suggestions and "real world" examples of areas where scores were average and

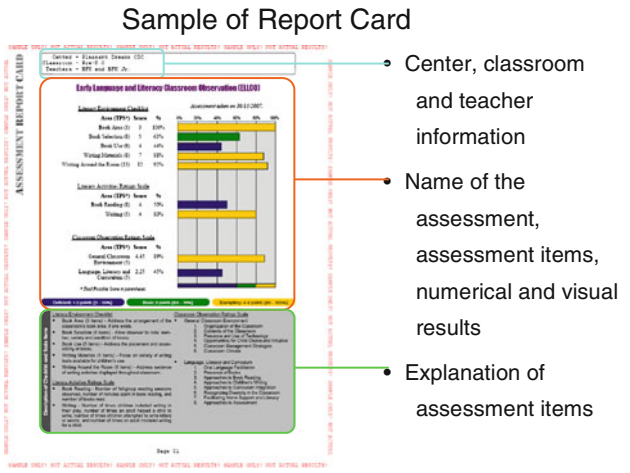

Fig. 2 Sample of user-friendly report card providing feedback to program staff on classroom observations

below. Lastly, staff was instructed to create a plan of action to address strategies they planned to use to make improvements. Program staff also had the opportunity to provide written feedback to the evaluators about the report card meeting. Overall, staff liked the specific feedback they received, the detailed and clear explanation of findings, the pleasant tone of the meeting, the visual charts, and the opportunity to interact, share, and discuss the results. However, in a couple meetings, program staff could not be easily convinced that any score of average or less was anything but a crushing defeat. Nevertheless, based on classroom observations from pre to post for these sites, teachers fully adopted improvements based on the feedback they received at the initial meeting, indicating the report cards' success. Where possible, teachers and administrators should engage third party evaluators who become honest brokers and who can be more easily "heard" by staff in the process of on-going quality improvement in early childhood education.

Offer Ongoing Professional Development to Address Areas Needing Improvement

Findings from classroom observations indicated that improvements were still needed in areas of the literacy environment and activities, especially in activities related to writing and language-reasoning. Recommendations gleaned from collateral services (technical assistance and comprehensive services) staff interviews revealed the need for more classroom instruction in skills to enhance literacy. Additionally, interview responses from stakeholders (project managers, teachers, teacher assistants, and parents) highlighted that not enough progress was being made in children's understanding and use of written language. As a result, professional development activities focused on these critical areas of language, literacy, and the classroom environment.

One area that needed special attention was support for emergent literacy in early childhood classrooms. Such support could provide a literacy-rich pre-k environment with abundant reading and writing materials that would include a wide variety of children's story books directly relevant to children's ethnic backgrounds. Learning to read and write is critical to a child's success in school and later in life. One of the best predictors of whether a child will function competently in school and go on to contribute actively in our increasingly literate society is the level to which the child progresses in reading and writing (International Reading Association and the National Association for the Education of Young Children 1998). Professional development topics also centered on supporting children's efforts at writing by highlighting classroom environmental factors including the varieties of materials used for writing, and the organization of writing around the classroom. These professional development activities also stressed the importance of assisting students in their efforts to write and model writing so as to foster language and literacy skills.

One strategy used with professional development was individual follow-up after training. In one case, a professional development workshop involved teachers participating in activities to identify the relationship between oral language and the reading process. Teachers were asked to share with the group what they had done to increase literacy in their classrooms since the previous training on "read alouds" in the previous month. Their list included: write letters to parents on Fridays, use more open-ended questions, establish a word wall and a message board, extend conversations, have children read aloud to the group, allow children to take books home to read, and have children read in pairs.

After training, the teachers were asked to write two things they had begun to incorporate into their classroom planning. Their list suggested a successful professional development experience which included: read more than 3 times per day, place pictures on daily schedule, read more expressively, paraphrase what the children say, read in Spanish/English, encourage parents to read to their children, and establish a book club for parents.

Other professional development topics focused on the attainment of higher-order thinking skills through language-reasoning, such as how teachers use instructional discussions, questions, and activities to promote critical thinking skills and cognition rather than rote instruction, and how teachers use language-stimulation and language-facilitation techniques during individual, small-group, and large-group interactions with students. For many professional development workshops, media used to share knowledge through dynamic facilitators included role-playing and communication of real-world examples and illustrations to collaborate on topics and make them relevant and meaningful.

Provide Coaching and Mentoring by Outside Professionals

All sites had access to collateral services staff and received consultation from a technical assistance team of consultants on curriculum, instruction, assessments, training, community outreach, and technology. They also had a multidisciplinary team of health specialists available to them that included social workers, psychologists, speech and language practitioners, and play therapists.

In addition to monthly didactic professional development workshops, the program included ongoing opportunities and technical assistance for teachers to try new ideas within their own classroom contexts and with the help of

skilled colleagues. On average there were three monthly technical assistance visits conducted at each program site. Each visit lasted about 5–6 h and was comprised of structured classroom observations followed by direct feedback and recommendations to classroom staff. Technical assistance specialists also modeled instructional behaviors to classroom staff. The overriding focus of center- and classroom-based technical assistance was to build the capacity of classroom staff to implement the curriculum with fidelity. To this end, technical assistance was provided in instructional areas including the physical classroom environment, daily routines, teacher-child interactions, assessments, and parent involvement. Technical assistance was also provided on transition strategies and processes that program sites could use.

Based on interviews and observations, teachers and teacher assistants reported that technical assistance services contributed to improved classroom staff abilities, particularly with respect to classroom instruction. The four areas in which improved staff capacity were noted consistently were: implementing the curriculum with fidelity, providing more child-centered individualized instruction, developing more creative lesson plans aligned with the curriculum that built on children's interests, and structuring the physical classroom environment to foster learning. In turn, improved staff capacity was noted as having improved children's enjoyment of school as well as their social and emotional development.

Make Modeling Available Through the Use of Master Teachers

Some observed teachers could easily be described as master, expert, or exemplary. They organized themselves efficiently, instructed their classroom with ease and flow, and were novel and creative in their approaches to teaching. They seemed to have an understanding of "what had to be done" and "how to do it." They managed classroom routines, set high expectations, and were sensitive to developmental stages, cultural factors, and gender differences. Overall, they were more adaptive and successful in their teaching and students in these classrooms seemed more engaged, productive, and cooperative. One such teacher was able to freely allow her students to engage in routine classroom responsibilities based on their evident respect for her authority. For example, during a classroom observation, the teacher had to briefly step away from the whole group. She asked for a student volunteer to carry on the routine while she stepped away. Her request was responsibly carried out without any interruption to the morning meeting routine.

The evaluators proposed that these master teachers could serve as mentors for other teachers, share their strategies at professional development workshops, have teachers in the program observe their classrooms strategies and techniques, and visit other sites to give teachers feedback on their teaching.

Conclusion

Dynamic evaluations with regular and timely feedback can improve practice and outcomes, and should be adopted wherever possible by schools and programs. For the Pre-Kindergarten Incentive Program, evaluators identified key areas for improvement from evaluation findings that have broad application to early childhood education. These practical guidelines have implications for educators locally, nationally, and internationally. Implications from the evaluation highlighted that more reading opportunities and attention to reasoning based on practical day-to-day events and interests of students can be important pathways to better practice and outcomes. Reading to children on a daily basis helps develop children's interest and skill in reading. Furthermore, ongoing professional development can be more precisely targeted with evaluation research, including mentoring of teachers, using master teachers, and providing rapid and timely feedback for all quality issues. Nationally and internationally, high quality pre-k classrooms could be one part of a reform strategy to help states and countries meet global standards and emulate successful systems.

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Conflict of Interest The authors declare that they have no conflict of interest.

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