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Florida’s Researcher/Practitioner
School Readiness Partnership:
Opportunities and Potential

A Report from the Florida Network of School Readiness Hubs - February 2007

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High-Quality Early Care and Learning Emerging as Local, State, and National Priority

We know young children are equipped to begin the learning process at birth, that young children are more capable learners than previously thought, and that school success is greatly influenced by the quality and context of children's early learning experiences. Helping children achieve positive results in school requires us to attend thoughtfully to children's early experiences in the home, in the community, and in organized care-giving programs.

Today, approximately 60% of children under the age of 5 and nearly 75% of children ages 3 through 5 experience some non-parental care and education (West, Hausken, & Collins, 1993; Mulligan, Brimhall, & West, 2005). Guided by well-qualified teachers, high-quality programs provide children with meaningful learning and play experiences in highly interactive and enriched learning environments. The quality of these early experiences impacts the extent to which a child's learning and development will be nurtured and enhanced. Despite these research findings and public recognition of the importance of high-quality care and education to young children, early care remains underfinanced, unevenly staffed, highly fragmented, and poorly connected to recent research findings — a “non-system.” National assessments of program quality indicate that many preschool programs are of mediocre to poor quality (Peisner-Feinberg et al., 1999). Gallagher and Clifford (2000) argue that quality care for young children outside the home lacks “a comprehensive infrastructure or support system to stand behind the delivery of services to the child or family” (p. 1).

High Quality: The Context for Success

Investing in high-quality early childhood education increases the economic development of communities and offers a high rate of return (Committee for Economic Development, 2004; Reynolds, Temple, Robertson, & Mann, 2001). Several longitudinal studies, based on a relatively small number of children from low-income families, demonstrate the long-term benefits of participating in high-quality early care and learning programs. Benefits include higher levels of educational attainment, a better-prepared workforce, and reduced crime (Schweinhart, Barnes, & Weikart, 1993). Heckman (2006), in a presentation entitled “Building the Economic Case for Investments in Preschool,” succinctly stated the case:

There is substantial evidence of critical or sensitive periods in the lives of young children. Environments that do not stimulate the young and fail to cultivate both cognitive and non-cognitive skills place children at an early disadvantage. Once a child falls behind, he or she is likely to remain behind. Remediation for impoverished early environments becomes progressively more costly the later it is attempted in the life cycle of the child. The track record for criminal rehabilitation, adult literacy and late teenage public job training programs is remarkably poor. Impoverished early environments are powerful predictors of adult failure on a number of social and economic dimensions.
Impoverishment is not so much about the lack of money as it is about the lack of cognitive and non-cognitive stimulation given to young children. (p. 3)

It is becoming increasingly clear to Florida’s state policy makers, governmental agencies, educators, business leaders, school readiness service providers, and community groups that providing high-quality school readiness is the foundation on which a high-quality 21st century educational system, and the future of Florida, will be built. Building a strong early care and learning system will require a dramatic departure from current practice. It will require investing in knowledge-building and sharing mechanisms that facilitate changes at the individual and organizational levels. Florida has many elements needed to create a school readiness support system, spurred by legislative and citizen action. However, some elements need to be strengthened; others must be developed.

The State University System of Florida Responds

In 1999, the School Readiness Act was enacted by the Florida Legislature and signed into law by then-Governor Jeb Bush (Florida School Readiness Act, 1999). This law established a public policy that recognizes the importance of providing Florida’s youngest citizens with the capacity needed to learn throughout their lives. Among the requirements of this law was the establishment of early learning coalitions across the state, the development of school readiness performance standards identifying what 3- to 5-year-old children need to know and be able to do, and strengthening the knowledge and skills of frontline practitioners via an articulated career path for school readiness-related professions.

In response to this legislative initiative to improve access, quality, and positive outcomes for children, on February 17, 2000 the State University System of Florida (SUS) Board of Regents approved an agenda to support school readiness. The presidents of Florida’s 10 public universities each appointed a readiness Liaison to serve as the point of contact and action. The Florida Institute of Education at the University of North Florida (FIE) was charged with bringing the readiness Liaisons together to form the SUS Readiness Resource Team to work with local school readiness coalitions as they developed implementation plans. These initial efforts in 1999 and 2000 linked SUS universities and Florida’s state-level and community-level readiness work (Cosgrove & Taylor, 2000).

From this initial researcher/practitioner collaboration, a critical need emerged—to build individual and organizational capacity in the emerging school readiness sector that would help local readiness coalitions strengthen the direct delivery of services to children and families. Improving classroom practices, strengthening family involvement, and using research and evaluation to fuel continuous improvement were identified as critical components. FIE, in collaboration with key stakeholders, proposed a statewide network of university and local early learning coalition partnerships entitled the Florida Network of Community-Based Early Learning and Professional Development Hubs (hereinafter referred to as the Hubs Pilot) to address the need for building capacity in the school readiness system. The Hubs Pilot model consisted of a two-tiered support infrastructure (state and regional levels) that would help frontline practitioners redesign curricular and instructional practices, strengthen assessment, and support
professional development efforts. The design of this researcher/practitioner collaboration called for a shared vision for excellence, redesigning roles at the state and local levels, rethinking the way in which early care and learning is carried out, and changing what happens every day in early care and learning programs.

Historically, universities have often been perceived as being out of touch with the real-world challenges faced by early care and learning providers, or as producing research not readily applicable for classroom use. The Hubs Pilot sought to overcome these perceptions by creating a university and coalition school readiness support mechanism that would result in improved quality of services being delivered in early care and learning classrooms across the state. Hubs Pilot partners took on the challenge by developing and field-testing projects that bridged the divide between research and practice, informed and improved work, and created lasting partnerships committed to improving young children's school readiness outcomes.

FIE, working collaboratively with the then-Chancellor of the SUS and 10 public universities, sought funding to field-test this model. These efforts resulted in a federal appropriation through a U.S. Department of Education grant for approximately $2 million over a 6-year period. Early learning coalition partners, representing Florida's diversity in terms of geographical location and population density, identified problems of practice that became the focus of Hubs Pilot applied research efforts; addressing persistent problems of practice, translating research findings into promising strategies to be tested in the field, and disseminating effective strategies.

Expected outcomes from the Hubs Pilot included: (a) conduct a small-scale “proof of concept” pilot to test the feasibility of a statewide university/coalition school readiness support mechanism; (b) assess the extent to which a statewide researcher/practitioner partnership could help early learning coalitions improve the quality of school readiness services being delivered at the local level; and (c) answer practice-focused questions tied to pressing needs, providing timely and useful information to guide decision-making.

The Hubs Pilot: A Two-Tiered Approach to Improving Quality Regional and State-Level Support Mechanism

The Hubs Pilot model, a researcher/practitioner partnership, consisted of two distinct but interrelated components: a regional or grassroots level designed to establish researcher/practitioner partnerships focused on addressing locally identified problems of practice; and a state-level component chaired by FIE which was designed to bring together researcher/practitioner partners from across the state to share their wisdom and expertise and develop and field-test strategies and tools needed to close the readiness gap between Florida's economically advantaged and disadvantaged children. State-level membership was made up of representatives from each of the regional Hubs, the Director of the Florida Head Start State Collaboration Office, and the Associate Director of the Florida Partnership for School Readiness.
The Hubs Pilot at the regional level. Each regional-level school readiness Hub brought together local early learning coalitions and university partners charged with determining important or pressing needs of children within each Hub’s service region (Figure 1). Achievement gaps between the children’s current levels of performance and the six research-based domains articulated in the Florida School Readiness Performance Standards for Three-, Four-, and Five-Year-Old Children (2002) anchored the Hubs Pilot research focus to real-world coalition needs and priorities. These six domains include: (1) physical health, (2) approaches to learning, (3) literacy and language, (4) social/emotional development, (5) cognitive development and general knowledge, and (6) motor development. The Hubs Pilot gave particular attention to early literacy.

Figure 1. University/Coalition Partnerships

Each university president appointed a School Readiness Liaison (Liaison) for the Hubs Pilot. The Liaison, a faculty member with expertise in the area of early childhood education, research, or child development, assumed responsibility for convening a collaborative researcher/practitioner network called a Regional Readiness Hub. The Liaison and an early learning coalition representative co-chaired their Regional Readiness Hub implementation team. Membership included a public university, local school readiness coalition(s), key stakeholders, and several community-based child care sites located in high-needs neighborhoods and representing subsidized, Head Start, faith-based, and/or school-based child care partners. Together, they formed local partnerships, identified local needs, provided access to scientifically based research and wisdom from practice, and conducted locally identified research and development initiatives. Activities included translating research findings into practical strategies, materials, and tools; designing professional development delivery strategies; conducting an applied research project to answer collaboratively developed questions; and assessing the results.

The 10 Regional Readiness Hubs served as platforms of collaboration for the development of grassroots learning communities across the state. These learning communities focused on designing
experiences to ensure that at-risk children come to school healthy, eager to learn, and possessing the skills, knowledge, and dispositions to succeed. The community-based child care sites served as Hubs Pilot beta test sites for scientifically based research strategies, materials, and tools designed to improve readiness outcomes for children. Thus, the Hubs Pilot demonstrated the feasibility of creating a viable mechanism that could provide access to research in ways practitioners found useful and address pressing problems of practice at the local level while sharing information and leveraging resources at the state level.

The Hubs Pilot at the state level. FIE convened regular state-level work sessions among the 10 Regional Readiness Hubs to coordinate project activities across the state, support efforts of regional Hubs, increase local- and state-level communication, and serve as a resource to other school readiness agencies and activities. Outcomes of this statewide working arm of the Hubs Pilot structure included sharing progress about practice-focused research projects; discussing implementation problems associated with creating Florida’s emerging school readiness system; accessing new information and classroom tools; sharing current research and development efforts taking place in the Hubs Pilot, specifically, and in the universities, generally; and identifying, tackling, and addressing common and uncommon challenges.

The Florida Network of School Readiness Hubs Report

This report, Florida’s Researcher/Practitioner School Readiness Partnership: Opportunities and Potential, reports the outcome of this “proof of concept” Hubs Pilot. Each Regional Readiness Hub developed a relationship with its local network of providers, established a viable implementation team, and involved practitioners in the identification of the problem and implementation of the research. Conducting 10 distinct research projects instead of one statewide project allowed for the exploration of the complexity of school readiness while responding to specific needs of local communities.

The Regional Readiness Hubs emerged as places where practitioners, university faculty and researchers, children, families, and other key stakeholders worked together to improve achievement, enrich practice, develop knowledge, engage in productive change, and contribute to the transformation of a child care center into a learning community.

Chapters 1 through 10 highlight the practice-focused research carried out in each Regional Readiness Hub and present the findings across Florida from the Panhandle east and south to Miami-Dade. A brief overview of each research focus is included in the Table of Contents. The final section, “Moving to the Next Level,” provides a discussion of Hubs Pilot accomplishments, unanticipated outcomes, and proposed steps to move Florida to the next level.


Chapter 1

Supporting Teachers’ Use of the Second Step Violence Prevention Program in Preschool Programs: University of Florida and the Early Learning Coalition of Alachua County

North Central Florida Regional Readiness Hub

Kristen Kemple, Vicky Stark, Lynn Blakeslee, Stacy Ellis, Caitlin Gallingane, Heejeong Sophia Han, and Haekyoung Kim
Abstract

This chapter describes multiple collaborative efforts among personnel from the University of Florida and the Early Learning Coalition of Alachua County, Florida. These efforts have focused in general on the use of teaching practices to support the growth of young children’s competence in understanding emotions and social cues, and in using prosocial, nonaggressive behavior in their interactions with peers. Most specifically, these efforts have centered on the use in Alachua County of the Second Step Violence Prevention Program for Preschool and Kindergarten (Committee for Children, 2002). The overarching purpose of the project has been to enhance Alachua County teachers’ competence and effectiveness in meeting the state of Florida’s requirement for addressing social-educational goals in the area of character education. Toward this purpose, we have designed an assessment tool for exploring teachers’ beliefs about strategies to support social competence, provided assessment-based professional development workshops to support teachers’ use of Second Step, and created a toolkit of materials and resources to support the continuation of teacher professional development in this area. Implications of our findings are discussed.
Introduction

At the initiation of the statewide Hubs Pilot project, individual Hubs were asked to select a general area of focus for their project. Early childhood faculty at the University of Florida possess a good deal of expertise in the broad area of social and emotional development. The work for this project was built from the foundation of experience and knowledge of the University of Florida. At roughly this same time, the Early Learning Coalition of Alachua County (formerly the Alachua County School Readiness Coalition) selected the Second Step Violence Prevention Program as a central avenue by which early school readiness programs in Alachua County would meet the state-mandated requirement for documentation of specific methods to promote character education in young children. We focused our efforts on Second Step for two basic reasons. Optimizing the use of Second Step was a priority for the local early learning coalition, and University of Florida faculty shared the coalition’s view that the extant literature on Second Step indicated excellent potential as a means of stemming the growth of aggressive behavior, promoting positive character, and teaching prosocial dispositions and behavior.

Statement of the Problem

The State of Florida’s school readiness legislation requires that a form of character education be implemented in all state-subsidized school readiness programs. Effectively meeting this mandate requires not only selection of appropriate methods for promoting children’s growth in the realm of positive social behavior, but also requires that teachers receive professional development to support their appropriate and successful use of the selected methods. The overarching purpose of this project has been to enhance teachers’ knowledge, understanding, and use of practices to support the development of preschoolers’ effective prosocial skills and general social competence. Specifically, the project has been designed to provide professional development experiences to support teachers’ use of the Second Step Violence Prevention Curriculum (Committee for Children, 2002). Second Step was adopted by the Alachua County Early Learning Coalition in 2000 in compliance with the State of Florida’s school readiness legislation mandate for including character education in school readiness programs.

Literature Review

Social Competence

Social competence has been defined as “the ability to achieve personal goals in social interaction while simultaneously maintaining positive relationships with others over time and across situations” (Rubin & Rose-Krasnor, 1992, p. 285). In the realm of early childhood education, children’s competence in social interaction with peers has traditionally been accorded prominent importance, and for good reason. The classroom peer group provides a powerful context in which children can learn, practice, and refine the give-and-take that is essential to competent social
interaction. It is well-established that social competence in the early childhood years has implications for children’s later adjustment and success (Shonkoff & Phillips, 2000) and that a strong positive correlation exists between early and later aggression (Rutter, Giller, & Hagell, 1998). The ability to interact effectively with peers is viewed by Birch and Ladd (1996) as an important component of school readiness and is predictive of children’s positive adjustment to later schooling. Furthermore, competent classroom social interaction has been found to predict performance on standardized achievement tests (Malecki & Elliott, 2002). A review of the literature by Zins, Bloodworth, Weissberg, and Walberg (2004), concluded that “there is a growing body of scientifically-based research supporting the strong impact that enhanced social and emotional behaviors can have on success in school and ultimately in life” (p. 19).

**Social Competence and Teachers’ Roles**

The early childhood environment provides an arena for the development of peer-related social competence. The extent to which that potential is realized, however, can vary tremendously from one setting to another. The growth of peer-related social competence in an early childhood program can be enhanced by the attention of a teacher who understands the social needs and capabilities of the children, who knows how to provide appropriate support as needed, and who intentionally and purposefully acts to do so.

Research, theory, and tradition have generated an abundance of useful strategies and teaching skills to support the growth of young children’s social and emotional learning and development (for a review, see Kemple, 2004). A schematic for classifying strategies, as well as for making decisions about which strategies to consider first, is described by Brown, Odom, and Conroy (2001). Teachers are generally urged to consider the most naturalistic approaches first, before moving on to more intensive, highly structured, and adult-directed approaches. This approach is exemplified in a hierarchical pyramid model for supporting social competence and preventing challenging behaviors in young children (Fox, Dunlap, Hemmeter, Joseph, & Strain, 2003). This model suggests that practitioners begin with naturalistic strategies such as developing meaningful relationships and creating a supportive classroom environment, and then move toward more specific and individualized teaching strategies and interventions.

**Second Step**

Violence prevention efforts have increasingly focused on ameliorating or preventing aggressive behavior in school settings. Current research supports the effectiveness of school-based violence prevention programs, including Second Step, for curbing aggression at the upper elementary, middle school, and high school levels (Grossman et al., 1997; McMahon & Washburn, 2003; Orpinas, Parcel, McAlistier, & Frankowski, 1995; Taub, 2002; Van Schoiack-Edstrom, Frey, & Beland, 2002). Whereas few studies exist on the efficacy of programs like Second Step for use with preschool-aged children, some empirical studies support this kind of intervention (McMahon, Washburn, Felix, Yakin, & Childrey, 2000).
In spite of limited empirical evaluation data, Second Step is a widely used and well-respected program for preventing aggression and teaching prosocial behavior in the early childhood years, with a design well-grounded in theory and research. The Second Step program for preschool and kindergarten is founded on a wealth of basic psychological research that supports the importance of empathy, emotion management, and social problem-solving as early cornerstones of prosocial, non-aggressive behavior. Second Step is based on research in social learning theory, social information processing, and verbal self-regulation. The design and content of the program are rooted in long-standing intervention research on empathy (Feshbach, 1975), anger management (Novaco, 1975), and social problem-solving (Spivack & Shure, 1974).

The preschool/kindergarten version of Second Step consists of 25 carefully specified lessons typically administered by the classroom teacher. Second Step is a universal prevention program that is taught to every child in the class, rather than to only a selected few. Each lesson is initiated with a photograph card. The situations depicted on the photograph cards are used to help children learn to understand feelings and how to solve problems in positive ways. Each lesson card addresses clearly specified objectives. Lesson cards provide scripts and suggestions for stories, discussion, role-play, skill practice, songs, transfer-of-training facilitation strategies, and other supporting activities.

Decades of didactic intervention for social competence indicate the importance of transfer-of-training strategies that directly aid young children in translating the knowledge and skills they learn through didactic instruction into actual application in real-life settings (Consortium on School-Based Promotion of Social Competence, 1994). Thus, transfer of training strategies is considered an important component of the Second Step program for young children.

Methodology

Anecdotal records from early stages of the Hub project indicated that the challenges teachers experienced in using Second Step were in the areas of (1) group management during lesson implementation, and (2) using scaffolding and mediating skills to help children translate newly acquired knowledge of skills into actual skilled behavior in the natural context of classroom interaction. In response to these observations, the Hub’s implementation team decided to examine what teachers find challenging about using Second Step, to create professional development materials and activities to address those needs, and assess the impact of the professional development materials and activities. This plan included evaluation of an assessment tool to be used in examining teachers’ beliefs about and use of various scaffolding and mediating strategies to support the development of socially competent, non-aggressive behavior. These intertwined endeavors will be described below as two studies: Study #1 is an assessment of the psychometric qualities and utility of the Social Interaction Practices for Preschool Years (SIPPY) assessment tool,
and Study #2 is the development, implementation, and evaluation of a professional development program designed to support teachers’ effective use of the Second Step curriculum.

During the earliest stage of the Hub project, a small-scale quasi-experimental study was carried out to examine the effect of the Second Step curriculum on children's social knowledge in relation to empathy, problem-solving, and emotion management. Results indicated positive and significant change in all of these areas for high-risk children who had experienced the curriculum.

**Study #1: Evaluation of the Social Interaction Practices for the Preschool Years Assessment Tool**

*Scale Description and Procedures*

The Social Interaction Practices for the Preschool Years (SIPPY) study was conducted to describe the development and reliability of the SIPPY questionnaire. The SIPPY instrument is a tool designed to assess preschool teachers’ judgments about the acceptability and feasibility of strategies as well as their current use of practices, for promoting peer-related social competence. The scale is based on research supporting the growth of young children’s social competence from the realms of both early childhood education and early childhood special education.

The SIPPY scale is designed to assess judgments of feasibility, acceptability, and current use of strategies that can be conceptualized according to three categories: (a) Environmental Strategies, (b) Natural Activity Strategies, and (c) Intensive Strategies. Environmental Strategies include the intentional and reflective utilization of classroom environment to support competent social behavior. Natural Activity Strategies include practices of support and intervention that are integrated within the natural and typical flow of classroom activity. Intensive Strategies are characterized by highly planned, usually individualized, approaches that involve intentional and systematic alteration of social contingencies.

The creation of the SIPPY scale was initially based on a scale called the Social Interaction Program Features Questionnaire (Odom, McConnell, & Chandler, 1993). However, the item content of the SIPPY scale is based on recent literature in both early childhood special education and early childhood education. The literature from which the SIPPY items were constructed is described in Kemple (2004). Through collaborative review and revision by the authors, early childhood teachers, and graduate students with specialization in early childhood social competence, a 30-item scale was developed, in which each item is judged for three features: 1. Acceptability, 2. Feasibility, and 3. Current Use. The SIPPY questionnaire was designed to determine teachers’ beliefs about their role in supporting peer competence, as well as to be a source of information for planning professional development activities designed to enhance teachers’ ability and behavior in promoting peer competence.

The questionnaire was administered to 57 female preschool teachers, the majority of whom held either a national or state of Florida Child Development Associate (CDA) certificate, but very
few of whom held a bachelor's degree or beyond. Of the 57 teachers, 26% worked in Head Start and 74% worked in community child care settings. Participating teachers varied in terms of experience and education level: 49% had more than 5 years’ experience teaching young children; 51% had worked less than 5 years with young children. Among all participants, 37% had more than 10 years’ teaching experience with young children. The SIPPY questionnaire was administered in a small-group situation led by the authors and research assistants. Participants were informed that the area of interest was preschool teachers’ beliefs about their roles. They were also informed that the SIPPY instrument was being evaluated for its usefulness to assess preschool teachers’ beliefs and practices.

The SIPPY questionnaire was found to possess adequate internal consistency within each of the three strategy categories as indicated in Table 1.

Table 1

*Internal Consistency of the SIPPY Scales*

<table>
<thead>
<tr>
<th>Overall Scale</th>
<th>Standardized Item Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acceptability</td>
<td>.87</td>
</tr>
<tr>
<td>Feasibility</td>
<td>.85</td>
</tr>
<tr>
<td>Current Use</td>
<td>.88</td>
</tr>
<tr>
<td><strong>Environmental Strategies Subscale:</strong></td>
<td></td>
</tr>
<tr>
<td>Acceptability</td>
<td>.84</td>
</tr>
<tr>
<td>Feasibility</td>
<td>.71</td>
</tr>
<tr>
<td>Current Use</td>
<td>.81</td>
</tr>
<tr>
<td><strong>Natural Activity Strategies Subscale:</strong></td>
<td></td>
</tr>
<tr>
<td>Acceptability</td>
<td>.73</td>
</tr>
<tr>
<td>Feasibility</td>
<td>.70</td>
</tr>
<tr>
<td>Current Use</td>
<td>.79</td>
</tr>
<tr>
<td><strong>Intensive Strategies Subscale:</strong></td>
<td></td>
</tr>
<tr>
<td>Acceptability</td>
<td>.66</td>
</tr>
<tr>
<td>Feasibility</td>
<td>.79</td>
</tr>
<tr>
<td>Current Use</td>
<td>.83</td>
</tr>
</tbody>
</table>

Further analyses suggest that in general, teachers in this sample viewed strategies as acceptable and feasible. They were more likely, however, to judge strategies as acceptable and feasible than was reflected in their current use of those strategies. Teachers also viewed more intensive strategies as less acceptable and less feasible than environmental and natural activity strategies (Kemple, Kim, Ellis, & Han, 2006). The SIPPY questionnaire appeared to be an internally consistent questionnaire and showed good promise as a tool for assessing preschool teachers’ judgments about the acceptability and feasibility of strategies for supporting young children's peer
competence, as well as teachers’ current use of those strategies. The authors have utilized this scale as an aid in designing professional development activities to teach preschool teachers to support growth of positive peer interaction in the classroom, and anecdotal observations have supported this use as a good source of information for planning professional development experiences that meet teachers’ needs. Teachers’ responses to professional development experiences planned using SIPPY data and focus group interview data were overwhelmingly positive.

Due to a shortage of tools for assessing teachers’ beliefs about strategies to support the growth of social competence in early childhood classrooms, the SIPPY questionnaire may be considered a useful tool for both research and professional development in this area. Future research utilizing the SIPPY instrument could explore questions of concurrent validity by using observations of teachers’ current use of strategies and interviews designed to further explore beliefs about feasibility and acceptability. Also, studies need to be conducted that examine the challenges that teachers face in translating their beliefs into practice and how to overcome obstacles to implementation that teachers face in everyday classroom situations.

Research studies on teachers’ knowledge, beliefs, and actual practices related to social and emotional learning are sparse. Whereas a large body of literature supports an array of strategies for promoting young children’s social competence, the manner in which that information is put to use is likely to be influenced by what teachers think and what teachers feel able to do. The Social Interaction Practices for the Preschool Years questionnaire showed promise as a tool for exploring further questions in this area of early childhood education.

**Study #2: Professional Development Program to Support Teachers’ Use of the Second Step Curriculum**

**Description and Procedures**

Based on anecdotal observations and informal conversation with teachers, trainers, and administrators in the local child care community, teachers exhibited general comfort with the lesson components of Second Step, but needed support in using the curriculum to its maximum potential. Most noteworthy were the observations that teachers sometimes had difficulty with managing behavior during Second Step lessons, and with using transfer-of-training strategies to help children translate the information they gained through didactic lessons and use that information in the context of real-life classroom social interaction. The Hub implementation team decided to provide professional development experiences for teachers to help them make optimal use of the Second Step curriculum. Rather than relying on anecdotal observations of teachers’ needs, the team decided to conduct a needs assessment involving the teachers who were to participate in the professional development, as well as the group of individuals labeled as preschool specialists. Preschool specialists are those individuals responsible for monitoring
practices and providing professional development to teachers in both Head Start and the local private child care community.

Participants were recruited through collaboration with both local Head Start personnel and personnel at Child Care Resources of Alachua County. We identified all teachers who had received initial training in the use of the Second Step curriculum and invited all teachers who were using Second Step to participate in the project. Teachers were offered both monetary compensation and classroom materials in appreciation for their participation. This resulted in recruitment of a group of 27 preschool teachers who were actively using the Second Step curriculum in their classrooms.

Upon receiving informed consent from the teachers, researchers began to schedule focus group sessions with the participants. Six focus group sessions were set up at area child care centers and Head Start locations over a 1-month time period, and participants were required to attend one session. The goal of the sessions was to help researchers better understand the participants and gather information that would serve as a foundation for creating the professional development workshops. Data included: (1) background information about the teachers (experience, classroom context, training and education); (2) teachers' perceptions of the Second Step curriculum and their perceived difficulties in using the curriculum (gleaned through an open-ended focus group interview); and (3) teachers' judgments of the feasibility and acceptability (as well as their current use) of evidence-based teaching strategies to facilitate the development of social competence (gleaned by administration of the SIPPY questionnaire, described in Study #1).

In addition, separate focus group sessions were held with nine preschool specialists responsible for monitoring and professional development in Head Start and the local child care community. Through open-ended focus group interviews, preschool specialists provided their perceptions of teachers' greatest professional development needs for optimum implementation of the Second Step curriculum.

After completing the focus group sessions and compiling initial data, the researchers met to analyze the data and design the professional development workshops. Data from the focus group sessions were examined by the team through a form of content analysis, in which recurring themes in the needs expressed by teachers and preschool specialists were addressed. Themes that emerged as high priorities included:

- Selection and use of children's literature to support Second Step concepts
- Naturalistic strategies to support and mediate children's prosocial interactions and understanding of Second Step concepts
- Behavior management during didactic Second Step lessons
• Verbal communication strategies for supporting relationships and creating a positive classroom emotional climate
• Involving parents in Second Step
• Logistical concerns in lesson implementation

Themes were then clustered to be included in the professional development workshops. The most frequently occurring responses to the interview questions were narrowed into topics to be included in the workshops. Three 3-hour professional development workshops were created. These were offered at multiple times to accommodate teachers’ personal schedules and to ensure that the sizes of the workshop groups were small. Workshops were designed from a social-constructivist perspective to provide information, and were highly interactive. Workshops occurred over a period of 2 months and were designed and conducted by the primary author and a team of six doctoral students specializing in early childhood education.

Evaluation data were collected at the end of the third workshop. Each group of teachers at the third workshops was treated as a focus group. Data collection involved a post-intervention focus group interview that included the initial pre-intervention interview questions and additional questions pertaining to changes in the teachers’ perceptions and practices. An open-ended discussion of the effectiveness of each workshop was held. Teachers also completed an evaluation of the series of workshops and an assessment of their knowledge. As indicated in Table 2, teachers’ responses to the workshops were highly positive. Table 3 contains the central goals and assessed objectives for each workshop. All 27 participants obtained every objective, as measured by a written assessment administered at the end of the final workshop. Finally, the focus group interviews conducted at the end of the workshop series indicated that while most teachers felt the content was not new, they strongly felt that being reminded of available strategies and having the opportunity to discuss them with other teachers was a valuable experience. In the focus group interviews, teachers expressed strong interest in learning more about functional behavior assessment as a tool for helping children who display challenging behavior. They also expressed strong interest in the parent training video produced by Committee for Children, and teachers suggested the need for parents to attend some sort of educational session to help them support the teachers’ use of the Second Step curriculum. Teachers’ comments about the format of workshops indicated that they enjoyed the relaxed, friendly atmosphere of the workshops and found it highly useful to share ideas and engage in problem-solving in collaboration with other teachers.
### Table 2

**Hubs Workshops: Beyond Second Step**

<table>
<thead>
<tr>
<th>Participant Evaluations (n = 27)*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>In this series of workshops, I learned some new strategies that I will be able to use in my own classroom</strong></td>
</tr>
<tr>
<td>26 Yes, definitely</td>
</tr>
<tr>
<td>____ Yes, probably</td>
</tr>
<tr>
<td>____ Not sure</td>
</tr>
<tr>
<td>____ No</td>
</tr>
</tbody>
</table>

**The strategies from this series of workshops are realistic for my classroom situation**

| 25 Yes, definitely |
| 1 Yes, somewhat realistic for my classroom |
| ____ Not sure |
| ____ No, not realistic for my classroom |

**This series of workshops presented:**

| 1 Too much information |
| 25 about the right amount of information |
| ____ Not enough information |

**The ideas presented in this series of workshop were:**

| ____ Mostly ideas I already knew and didn’t need to hear about again |
| 24 Mostly ideas I already knew about, but it was good to be reminded about them |
| 4** Mostly new ideas |

*One participant did not complete an evaluation form

**Some teachers checked more than one option for this item
This project has resulted in both anticipated and unanticipated outcomes, virtually all in the realms of advancement and opportunity. As a result of our participation on the statewide Hubs Pilot project, University of Florida (UF) early childhood faculty has become engaged with the local child care community in general and with the Early Learning Coalition of Alachua County in particular to a far greater degree than existed previously. For example, several UF faculty members now serve on the coalition and its various committees, and Early Learning Coalition members now serve on UF groups, such as the Board of Directors of Baby Gator Center for Child Development and Research. Also, as a result of this increased communication, local Head Start administrators have requested that UF find a way to offer bachelor’s degree education in a format to meet the unique needs of employed early childhood teachers. This represents a major advancement in the community, to increase access to higher education for Head Start and other community early childhood teachers.

Table 3

Goals and Objectives of Hub Professional Development Workshops 2005

| Workshop #1 | Goal: To provide strategies for dealing with materials management and other practical challenges encountered in using Second Step.  
• Objective: Participants will be able to identify at least two logistical challenges and solutions.  
| Workshop #2 | Goal: To provide examples of naturalistic teaching strategies to facilitate transfer of children’s Second Step skills and concepts from the didactic lesson to the natural play setting.  
• Objective: Participants will be able to identify at least two naturalistic strategies to support transfer of social skills.  
| Workshop #3 | Goal: To introduce teachers to the basic principles of functional assessment of challenging behaviors, for those children for whom Second Step may be an insufficient intervention.  
• Objective: Teachers will be able to identify the probable function of a child’s behavior in videotaped and written scenarios.  
• Objective: Teachers will be able to identify the three main functions of challenging behaviors.  
| Workshop #4 | Goal: To provide examples of developmentally appropriate guidance strategies, especially verbal communication strategies, to create a positive classroom emotional climate that supports the Second Step curriculum.  
• Objective: Teachers will be able to identify at least two supportive verbal communication strategies.  
| Workshop #5 | Goal: To introduce teachers to high-quality children’s literature and how to use it to support specific Second Step competencies.  
• Objective: Teachers will be able to identify at least two titles of high-quality children’s books suitable for extending Second Step lessons.  
• Objective: Teachers will be able to identify at least two strategies for effectively sharing relevant books with young children.  
• Objective: Teachers will be able to identify at least two developmentally appropriate extension activities to build on the content of relevant books.  

Discussion and Implications
In addition to the anticipated outcomes of providing professional development and building support for the Second Step program in Alachua County, this project has seeded additional research effort. Also based on the Hub’s work, the primary author proposed a study to examine the effect of Second Step on the knowledge, dispositions, and behavior of preschool children in Alachua County. This proposal has resulted in award of an endowed research professorship in the College of Education that is helping to support her continuing research effort in this area. A proposal for federal funding for large-scale research on the outcomes of Second Step is currently in development.

In addition, this work also led to the development of a doctoral seminar (Fall 2005) at the University of Florida on violence prevention in the early childhood years. As a part of this course, the nine enrolled graduate students helped to expand a toolkit of professional development resources that grew out of the Hub project workshops. The toolkit will soon be made available for distribution, and includes materials and resources as listed in Table 4.

One serious challenge we faced was the recruitment of teachers to participate in the project. Although we offered substantial monetary and materials compensation to teachers for their participation, we fell short of our goal of recruiting 100 teachers to participate in professional development workshops. It is our hope and expectation that the participants’ positive talk with colleagues about their experiences in this series of workshops will serve to encourage the participation of other teachers in the future.
Table 4
Content of Toolkit: Materials and Resources

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>List and description of quality children’s literature</td>
<td>to promote Second Step concepts and skills.</td>
</tr>
<tr>
<td>Quality children’s literature to support social skills and knowledge</td>
<td>Two lists of tips for choosing children’s literature were adapted from multiple sources by the researchers in order to provide practical guidelines and suggestions when selecting quality children’s books.</td>
</tr>
<tr>
<td>List of “singable” songs that can be used to support Second Step concepts</td>
<td>Provides the lyrics for these songs, and ideas for use.</td>
</tr>
<tr>
<td>List and description of videos</td>
<td>that can be used to train teachers on skills and concepts relevant to Second Step.</td>
</tr>
<tr>
<td>List and descriptions of websites</td>
<td>that would be highly relevant to teachers who use the Second Step curriculum with preschool children.</td>
</tr>
<tr>
<td>Descriptions of several “group affection activities,” each with specific objectives and a script.</td>
<td></td>
</tr>
<tr>
<td>List and description of “PALS Centers” ideas</td>
<td>Identifies 5 common social skills needs, and for each of the 5, describes 3 different potential PALS centers that could be created to address those needs.</td>
</tr>
<tr>
<td>List and description of potential logistical difficulties</td>
<td>that teachers may encounter when using Second Step, and suggested remedies.</td>
</tr>
<tr>
<td>Second Step manual at a glance</td>
<td>This was a simple reference tool designed by the research team, to ease the teachers in finding what they need in the Teacher’s Guide when implementing the Second Step curriculum.</td>
</tr>
<tr>
<td>Descriptions of naturalistic teaching strategies</td>
<td>This was a tool to introduce three major kinds of naturalistic teaching strategies, which are spontaneous on-the-spot teaching, incidental teaching, and conflict mediation.</td>
</tr>
<tr>
<td>Classroom’s verbal environment</td>
<td>This is a tool used to compare the positive and negative verbal environment as a fundamental element of the communication strategies. We identified the common reasons why teachers sometimes unintentionally slip into verbal patterns that might cause negative verbal environments and discussed what teachers can do to establish positive verbal environment that supports the Second Step curriculum.</td>
</tr>
<tr>
<td>Strategies for effective communication</td>
<td>This is a tool to introduce five different types of effective communication strategies, which are behavior reflections, paraphrase reflections, affective reflections, effective praise, and personal message. Challenging behaviors and functional assessment: This tool was selected to introduce the concept of challenging behaviors and basic principles of functional assessment in order to meet teachers’ biggest needs.</td>
</tr>
<tr>
<td>Presentation and group conversations</td>
<td>This tool was also adapted from multiple sources and reorganized by the researchers to provide better presentation strategies. Includes tips for guiding group conversation with young children.</td>
</tr>
</tbody>
</table>
References


## North Central Florida Regional Readiness Hub Partnership Members

<table>
<thead>
<tr>
<th>Affiliation</th>
<th>Person’s Name</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Representative(s)</td>
<td>Kristen Kemple</td>
<td>University of Florida</td>
</tr>
<tr>
<td>Coalition Partner(s)</td>
<td>Vicky Starke, Prisha Malone</td>
<td>Alachua County ELC, Alachua County ELC</td>
</tr>
<tr>
<td>Other Faculty Members</td>
<td>Helen Avery (co-chair)</td>
<td>Community Coordinated Care for Children (iC)</td>
</tr>
<tr>
<td>Other Faculty Members</td>
<td>Hazel Jones, Tina Smith, Sharen Halsall</td>
<td>University of Florida, University of Florida, University of Florida</td>
</tr>
<tr>
<td>Community College Representative(s)</td>
<td>Karen Bennett, Joan Campbell</td>
<td>Santa Fe Community College, Santa Fe Community College</td>
</tr>
<tr>
<td>Subsidized Representative(s)</td>
<td>Lynn Blakeslee</td>
<td>Child Care Resources</td>
</tr>
<tr>
<td>Head Start Representative(s)</td>
<td>Andi Lybrand, Brenda Self-Medlin</td>
<td>Head Start, Head Start</td>
</tr>
<tr>
<td>School-based – District Representative(s)</td>
<td>Ellie Chisolm</td>
<td>Alachua County Schools/ Head Start</td>
</tr>
<tr>
<td>Child Care-related Representative(s)</td>
<td>Pam Pallas</td>
<td>Baby Gator Center for Research and Child Development</td>
</tr>
</tbody>
</table>
Chapter 2

The Correlation of Continuity of Care and Communication and Language of At-Risk Preschool Children: Florida Atlantic University and the Early Learning Coalitions of Broward, Indian River, Martin, Okeechobee, Palm Beach, and St. Lucie Counties

Gold Coast Readiness Hub

Donna Read and Judy Burleson
The purpose of the Gold Coast Readiness Hub (GCRH) study was to examine the continuity of care or the quantity, quality, and stability of care given to at-risk children by caregivers in a preschool setting. It also investigated how this continuity of care correlated with the emergent literacy of preschoolers. The children participating in the study came from two faith-based, one subsidized, and one private preschool.

Seventy 3-, 4-, and 5-year-old preschool children were pre- and posttested in the area of Language and Communication (Emergent Literacy) using the Peabody Picture Vocabulary Test III Forms A and B (Dunn & Dunn, 1997). Children were also assessed using the Woodcock-Johnson Tests of Achievement (Woodcock, McGrew, & Mather, 2001)—Letter-Word Identification and Sound Awareness subtests, and the Concepts About Print test (Clay, 2000).

Faculty at Florida Atlantic University created a tool to assess preschool teachers and directors participating in this project. The Online Childcare Worker Survey consists of two instruments—one for child care center administrators and one for teachers—and is designed to determine the relationship of continuity of care and children’s early literacy development.

Findings showed a moderate, positive correlation for the variable of caregiver education level and children’s early literacy development, indicating a significant linear relationship between the two variables. A strong, positive correlation was found for the variable "relationship of the primary caregiver and student performance" on the Letter-Word Identification subtest of the Woodcock-Johnson Tests of Achievement. Furthermore, a strong, linear relationship of these two variables supported the need for further investigation using the intervention model. Findings about caregivers in this study revealed that higher staff education levels and staff longevity positively influence children’s language and literacy skills.
Introduction

The purpose of the Gold Coast Readiness Hub (GCRH) study was to examine the continuity of care or the quantity, quality, and stability of care given to at-risk children by caregivers in a preschool setting. It also investigated how this continuity of care correlated with the emergent literacy of preschoolers. The children participating in the study came from two faith-based, one subsidized, and one private preschool.

The GCRH, which is anchored by Florida Atlantic University (FAU) in Boca Raton, collaborated with six early learning coalitions from Broward, Indian River, Martin, Okeechobee, Palm Beach, and St. Lucie counties in central east and southeast Florida. The FAU Liaison met with representatives from the counties. A co-director who was knowledgeable about all of the counties was asked to help lead the research project. Each county was then visited, and representatives from each coalition were invited to help determine a shared research agenda. The co-directors met individually, in groups of two to three adjacent counties, as well as with all six counties for luncheon meetings on the FAU campus. Other community members were invited to participate based on specific areas required by the research goals, such as community college deans and professors, County Literacy Coalition directors, parents, and other professionals. Since this network of collaboration between FAU and the coalitions did not exist in the past, much time was spent getting acquainted, establishing trust, and encouraging participation.

The members divided themselves according to domain interests, such as Language and Communication, Physical Health Status, and Social-Emotional Development and discussed research questions, definitions of topics, assessments, research design, research variables to address, beta test sites, possible experimental and control sites, and coordination of assessments with other organizations in the county. Each domain group was given a notebook computer with a basic outline in PowerPoint, and at the end of the meetings each domain group shared its PowerPoint presentation with the entire membership for discussion. Revisions were made, and group members continued to build on their areas of expertise at subsequent meetings until the work was completed. This process facilitated work that had to be accomplished in a dynamic, cooperative environment. Additionally, the university co-director created the FAU Gold Coast Readiness Hub Web site for easy access to current literature in the field.

The GCRH research project also involved three professors from the College of Science, College of Nursing, and College of Social Work within FAU. A professor from the Department of Leadership, College of Education, assisted in the design and collection of caregivers and staff retention data.

Ultimately, the goal of the GCRH research project was threefold: (1) Obtain a snapshot of at-risk children as a whole by examining their growth in literacy, physical health status, and social/emotional growth at a point in time; (2) determine if there was a relationship of continuity of care to at-risk children’s literacy skills and the impact on children's literacy growth and
development; and (3) learn more about continuity of care in at-risk preschools and caregiver turnover rate (Frank Porter Graham Child Development Center, 2002; Institute of Medicine, 1995). While research was completed in all of these areas, the final goal focused on caregivers and the impact they made on the emergent literacy of at-risk students.

**Statement of the Problem**

The focal point of this research was investigating emergent literacy development of at-risk children. The primary theoretical base used was that of constructivism and Vygotsky’s (1978) social development theory, particularly the relationship between language and thinking. The research also focused on continuity of care by staff and how this correlated to children’s literacy development in preschool settings. Successful continuity of care is evidenced by reduced staff turnover and by the extent of staff involvement in professional growth, staff education level, and staff participation in the child’s learning. As a result, the following research question emerged: What is the relationship between caregivers’ continuity of care of at-risk children and children’s emergent literacy, particularly as it relates to school readiness?

**Literature Review**

*Children’s Emergent Literacy*

Numerous studies point to the need for increasing children’s emergent literacy, especially vocabulary, phonological and phonemic awareness, and print concepts. The importance of children’s vocabulary development both at home and in preschool is well documented (Payne, Whitehurst, & Angell, 1994; Marsh & Thompson, 2001; Hart & Risley, 1995; Huttenlocher, Haight, Bryk, Seltzer, & Lyons, 1991; Honig & Shin, 2001). A longitudinal study by Hart and Risley, observing 40 families monthly to analyze parent-child interactions, discovered a large difference in the number of words spoken to children per session over the entire study. The major finding was the extensive amount of time that higher socio-economic (SES) parents invest in talking with their children and their active interest in what their children have to say when compared to low SES parents.

Rush (1999), Senechal, LeFevre, Thomas, and Daley (1998), and Payne et al. (1994) examined the role of home literacy environment in the development of language ability in preschool children from low-income families and the varying degrees of literacy knowledge they possess when entering school. They found substantial differences among low-income families in literacy environments, and these differences have strong effects on children’s language development. For example, Rush examined a group of Head Start children’s \( n = 39 \) early literacy skills (letter-naming, phoneme blending, and onset recognition) and expressive and receptive vocabulary skills.
were assessed and correlated with measures of caregiver-child interactions observed in the home. Caregivers also were asked to report rates of early literacy activities. Results indicated that the children in Head Start demonstrated a range of early literacy and language abilities, and variation in these skills was related to some aspects of the children's home environments. In particular, degree of caregiver involvement, rate of language interactions, and participation in early literacy activities were related to early literacy and language skills. All of these researchers drew similar conclusions that home environment made a difference in a child's oral language ability.

Elly (1989) designed two studies to learn about vocabulary acquisition when stories were read aloud. Reading stories aloud to children is a significant source of their vocabulary acquisition. Low-scoring students gained at least as much in vocabulary knowledge as their more knowledgeable peers. The features that best predicted whether a particular word would be learned were frequency of the word in the text, depiction of the word in illustrations, and the amount of redundancy in the surrounding text.

Huttenlocher et al. (1991) focused on early vocabulary growth and its relationship to language and gender. They examined the role of exposure to speech in children's vocabulary development during the ages of 14-26 months. They found that the overall amount of parent speech input at 16 months accounts for large variation among children in vocabulary growth. It was also found that gender was a factor in the rate of vocabulary growth; girls achieved more than boys.

In one of the few longitudinal studies conducted on at-risk preschoolers, the High/Scope Perry Preschool Project (Schweinhart, Barnes, & Weikart, 1993) followed children from the age of 3 to their adult age of 27. Among their findings, researchers found that the experimental group scored higher in vocabulary, and had a higher literacy at age 19. More students from the experimental group graduated from high school, and fewer of them had been arrested by age 27.

Not only does language play an essential role in literacy, but reading books aloud to preschoolers and primary children is vital to literacy development. However, simply reading books is not enough; the quality of instruction when using books is also crucial to improving literacy. Wasik and Bond (2001) examined the effects of interactive book readings with 127 four-year-olds. They found that children whose teachers provided many opportunities for them to interact with vocabulary words (storytelling, props, discussion, and meaningful conversation) learned more book-related vocabulary compared to their peers who were just read to aloud. Children in the intervention group became more comfortable asking the teacher to explain a word they did not know and in asking questions during story time.

Scarborough, Dobrich, and Hager (1991) studied preschool literacy experience and later reading achievement. Parents were surveyed regarding their literacy practices at home during their child's preschool years and results were then compared to children's reading achievement in second grade. Children's later reading abilities were somewhat related to how often their
parents read to them during preschool years. Children who were identified as poorer readers were read to less frequently by their fathers than those children who were better readers. Children who were labeled poor readers later in second grade had been described as “amusing” themselves with books two or three times a week, while the children who became average readers amused themselves daily with books. By the time children had entered school, those who were identified as poor readers had accumulated less experience with books and reading than those children who were identified as better readers.

Dickinson and Smith (1994) investigated long-term effects of preschool teachers' book readings on low-income children's vocabulary and story comprehension. They found that distinctive patterns of book reading exist in classrooms and that the types of book-reading interaction have lasting effects on 4-year-olds' vocabularies and story understanding skills. Some teachers are not aware of the different, interactive book-reading methods to utilize in their classrooms, thus professional development in this area would benefit preschool teachers.

Neuman (1999) and Neuman and Roskos (1992) discovered that as a result of intervention, the majority of classrooms that made efforts to increase children's access to print had more classrooms with more high-quality books, and literacy interactions increased between teachers and children. After intervention, teachers were more likely to read more often and for a longer period of time in more content areas to children. Children in these classrooms also wanted to be read to more regularly. Statistical analysis revealed that training of staff and access to books made a large impression on the children involved when compared to a control group.

Being read to promotes pre-reading skills and concepts and lays a good foundation for the phonological and phonemic skills necessary for emergent reading development. Murray, Stahl, and Ivey (1996) examined developing phonemic awareness through alphabet books. Three treatments were distributed to different groups of preschool children: conventional alphabet books, books with letter names only, and a control group that read storybooks only. All groups gained in print concepts and letter knowledge over the course of the study. The conventional alphabet group made significantly greater gains in phonemic awareness than the group that read books just about letters. The storybook group made considerable gains in alphabet knowledge and in phonemic awareness. This study suggested that conventional alphabet books may be one good route to the development of phonemic awareness.

In the Carolina Abecedarian Project (1999), at-risk children from infancy through 5 years of age were studied for receptive language, pre-reading skills, and adaptive behavior skills. In a pre/posttest design, the researchers found that receiving education intervention positively influenced language use and reading word recognition and comprehension. These children remained in the school system longer and were more likely to attend a four-year college than those not receiving preschool intervention.
Burchinal, Lee, and Ramey (1989) compared the levels and patterns of intellectual development of three groups of at-risk children at three different types of care: university-based intervention group; community day-care centers; and children whose parents chose little or no center-based day care for their children. They found that quality community day care, as well as intervention day care, contributed positively to both the level and pattern of preschool intellectual development of economically disadvantaged children. Children at the university center showed a different pattern of infant cognitive development compared to the other children—scoring higher, with more growth shown.

Dickinson (2002) reviewed the documents *Developmentally Appropriate Practices* (1987, 1997) and *Learning to Read and Write: Developmentally Appropriate Practices for Young Children* (International Reading Association & National Association for the Education of Young Children [NAEYC], 1998) and compared the practices to the NAEYC Accreditation Criteria and Procedures, the Early Childhood Environment, and Classroom Profile assessment tools. Dickinson found that accreditation procedures and research tools used do not pay detailed attention to direct literacy instruction. Programs can be accredited and receive a high rating even if they are not providing the rich language and literacy environments that research has shown to be necessary in order for all children to learn to read and write. Thus, to improve preschool literacy instruction and standards, criteria for judging classrooms need to be addressed.

These studies indicate that the use of literacy activities in the home promotes early literacy development. They point out that the quality of instruction by preschool caregivers also plays an important part in promoting preschool literacy development. Further, it is apparent that preschool-to-home activities reinforce literacy skills and concepts taught in preschool and should be encouraged in the home.

*Continuity of care* is the ability to maintain staff and program continuity in child care settings. Successful continuity of care is defined by reduced staff turnover and by the extent of staff involvement, professional growth and education, and participation in the child’s learning. Researchers point out that staff retention in preschools has been a recurring problem for many years (Community Action Network, 2006; Early Learning Quick Facts, 2006; New York State Office of Children and Family Services, 2001; Cosgrove, 2001). Research also indicates that for the most part, preschool teaching staff is unstable even in high-quality programs. Children who attend centers with high turnover and lower levels of quality are less competent in social and language development (Sachs, 2002). Findings reveal that teachers with more education and early childhood training at the college level, and who consequently earn higher wages and benefits, exhibit more appropriate and sensitive caregiving and also interact in a more positive and prosocial manner when the child-staff ratio is lower (Sachs; Howes, Hamilton, & Philipsen, 1998; Karoly, Kilburn, & Cannon, 2005; Dickinson & DeTemple, 1998).
Methodology

Participants and Procedures

The subjects consisted of seventy 3-, 4-, and 5-year-old at-risk children attending two faith-based, one subsidized, and one private preschool selected by the Early Learning Coalition of Broward County, Florida. The preschools were located in south, west, and east Broward County. The distance between the preschools varied from three miles to 20 miles.

The participating preschools included four directors and eight teachers and their aides. The directors of each preschool were visited individually by the investigator, who explained the research project to them. A meeting for parents of all the children was held at one of the preschools. The study was explained, and parents had an opportunity to ask questions. Parent Consent Forms were left for the directors to obtain parent signatures and return to the investigator. No work was initiated until all consent forms were obtained. All collected data were kept confidential and locked in a cabinet in the investigator’s office.

In order to learn more information about teachers and directors at our preschools, a survey was developed by the GCRH co-chairs in conjunction with the Educational Leadership faculty member who worked on our research project. This information came from current research about staff retention as well as questions originally posed by the six district Hub members during our luncheon meetings. This information was then synthesized and grouped into categories such as employment, educational background, professional in-service attendance, perceived barriers to advancement, and other related areas. The final survey was then sent to the Director and Assistant Director of the Early Learning Readiness Coalition of Broward County for input; revisions were made and then developed as an online survey to obtain data more easily from teachers and directors. The Online Childcare Worker Survey consisted of 31 and 50 questions, respectively, for preschool teachers and directors to answer. This was administered online with a project assistant visiting each school to complete the survey.

Intervention

The intervention for teachers, which was conducted by a professional storyteller, focused on phonological awareness, phonemic awareness and oral language skills, and concepts about books—all skills or concepts that were lacking in many of the children in the participating preschools. Children’s literature, such as *The Very Hungry Caterpillar* and *Chicka Chicka Boom Boom*, was used (a) to focus instruction on phonological awareness skills that stressed rhyming, alliteration, sentence segmentation, syllable segmentation, syllable blending, onset/rime blending, onset/rime segmentation, and phoneme segmentation and blending (sounds, not syllables); and (b) for read-aloud activities that involved letter-sound identification for phonemic awareness. Teachers learned to use nursery rhymes and drama, puppetry, magnetic stories, and flannel board stories to reinforce learning. After practicing at the workshop, teachers implemented the activities in their classrooms, where they were videotaped for discussion purposes.
Instrumentation

The Peabody Picture Vocabulary Test III, Form A (pretest) and Form B (posttest) (Dunn & Dunn, 1997) is an individually administered test that measured listening comprehension (receptive hearing vocabulary and vocabulary acquisition) and served as a screening test of verbal ability. This is a popular test used with persons from 2 to 90 years of age.

The Woodcock-Johnson Tests of Achievement III (Woodcock, McGrew, & Mather, 2001) consists of 22 subtests. They are intended to be used with different combinations to provide information regarding an individual’s level of oral language ability, academic achievement, and knowledge. The subtests used for this study were Letter-Word Identification and Sound Awareness, including Rhyming, Deletion, Substitution, and Reversals.

The Concepts About Print test for 5- to 7-year-olds examines the child’s ability to explain concepts, such as where to begin reading, point to a letter, or word, or sentence, etc. This assessment provides information about the concepts children have about books and reading so that teachers can learn which concepts to focus on for instruction. Since this test is used in the primary grades to determine a child’s skills and concepts regarding the use of books and other literacy skills, it was felt that it would help make the directors and teachers more aware of some of the skills and concepts expected in kindergarten children.

These standardized tests were selected because they measure achievement in literacy skills and concepts, such as oral language, identification of letters and words, and phonological skills such as rhyming and deletion and substitution of letters or words. The assessment tools were also chosen because they spanned a wide age range, from 2-year-old children to adulthood. This meant that they could be used in longitudinal research. If future funding becomes available, the children can be followed throughout their school careers.

Parent Consent Forms were obtained. Each school, director, teacher, and child was given a code number. The pretest and posttest data were collected and analyzed using SPSS with code numbers only. Later, the test results were shared with the directors, who in turn shared the data with parents. The pretests were administered by two project assistants who were trained by the investigator using support training materials from the publishers.

All project assistants visited each child care center/preschool and were introduced to the directors prior to the administration of the tests. Testing was in full compliance with the Institutional Review Board (IRB) requirements: readings completed, evaluations posted on a government Web site for researchers and project assistants to complete, and Parent Consent Forms filed. Several meetings with the IRB Committee were held, and reports to IRB were submitted.

Pretest results were shared with the directors, and with their help the intervention plan emerged. The pretest revealed a noticeable lack of language and communication skills: listening,
speaking, vocabulary, beginning understanding of concepts about print, phonological awareness, (especially rhyming, alliteration, sentence segmentation, syllable segmentation, syllable blending, onset and rime blending and segmentation, and phoneme segmentation and blending), beginning development of knowledge of letters, and comprehending and responding to stories read aloud. Nursery rhymes were not well known, so professional development included the use of drama, puppetry, and flannel boards to enact folktales and other stories, all activities that are considered important to promote literacy with preschoolers.

The GCRH research project also included the Online Childcare Worker Survey (OCWS) for directors and teachers; thus another project assistant with expertise in technology was assigned this task. With the help of a professor in the Department of Educational Leadership who was involved in the GCRH from its inception and skilled in the use of technology, the project assistant was instructed about how to develop the technology for the survey. The questions for the survey were taken from information suggested by GCRH county members, the Hub co-directors, professors, and others such as parents, Literacy Coalition members, and ESE Directors who had a vested interest in learning more about caregivers in all of the counties involved in the research project. The OCWS Administrator's Survey consisted of 50 multiple choice and short-answer questions; the OCWS Teacher's Survey consisted of 31 similar kinds of questions. These surveys were completed by the administrators (n = 3) and teachers (n = 8) participating in the study. If using the computer posed a problem for teachers, the OCWS was completed at each preschool with the help of the project assistant.

The data were compiled and examined using SPSS. The results were reported and interpreted by the investigator and statisticians involved in the research project.
Findings

The participants were teachers of 3-, 4-, and 5-year-olds from four preschools located in Broward County, Florida. A total of eight (8) teachers volunteered to participate. Most participants were between 31 and 40 years old (37.5%), followed by 22 to 25 years old (25%). Half of the participants indicated they were African American/Black, 37.5% were Caucasian/White, and 12.5% classified themselves as “Other.” All participants completed high school (75%). In addition, others went on to earn certificates (12.5%) and bachelor’s degrees (12.5%). Table 1 presents the characteristics of participants.

Table 1

*Characteristics of the Student Participant (n = 66)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
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<tr>
<td>Gender</td>
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<tr>
<td>Female</td>
<td>33</td>
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<tr>
<td>Male</td>
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<td>Asian</td>
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<td>Other</td>
<td>4</td>
<td>6.3%</td>
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</table>

*Student Participant Scores on Instruments*

Table 2 presents the means and standard deviations of the dependent variables, the pre- and posttest scores on three recognized measures for preschool reading readiness: The Peabody Picture Vocabulary Test, the Woodcock-Johnson Letter Word Identification, and the Woodcock-Johnson Sound Awareness.
Table 2

Means and Standard Deviations for Pre/Post Differences by Preschool

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<tr>
<th>Source</th>
<th>Mean</th>
<th>SD</th>
<th>n</th>
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<tr>
<td><strong>Preschool 1</strong></td>
<td></td>
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<td></td>
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<tr>
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<td>5.75</td>
<td>4.92</td>
<td>4</td>
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<tr>
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<td>1</td>
<td>4.43</td>
<td>6</td>
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<tr>
<td>Sound Awareness Woodcock-Johnson</td>
<td>17.17</td>
<td>11.84</td>
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<tr>
<td><strong>Preschool 2</strong></td>
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<td></td>
</tr>
<tr>
<td>Peabody Raw Score</td>
<td>16.43</td>
<td>15.06</td>
<td>7</td>
</tr>
<tr>
<td>Letter-Word Identification Woodcock-Johnson</td>
<td>4.89</td>
<td>4.11</td>
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<tr>
<td>Sound Awareness Woodcock-Johnson</td>
<td>13.00</td>
<td>6.71</td>
<td>9</td>
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<td><strong>Preschool 3</strong></td>
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<td></td>
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<tr>
<td>Peabody Raw Score</td>
<td>8.00</td>
<td>7.96</td>
<td>7</td>
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<tr>
<td>Letter-Word Identification Woodcock-Johnson</td>
<td>6.57</td>
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<td>Sound Awareness Woodcock-Johnson</td>
<td>6.14</td>
<td>5.34</td>
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<tr>
<td><strong>Preschool 4</strong></td>
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<tr>
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<td>7.80</td>
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<td>Letter-Word Identification Woodcock-Johnson</td>
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<tr>
<td>Sound Awareness Woodcock-Johnson</td>
<td>31.75</td>
<td>16.03</td>
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Differences between the pre- and posttest scores were initially calculated to determine the effects of the literacy-focused intervention. Due to the attrition rate of children attending preschool at any particular time during the school year and promotion to kindergarten, posttest data collection was problematic. This resulted in the reduction of valid \( n = 65 \) to \( n < 30 \). This low \( n \) accounts for lack of significance on the test for Analysis of Variance. However, while statistical significance cannot be supported, emergent trends in these data support the notion of correlation between factors such as educational level of preschool teachers, length of employment, children's emergent literacy achievement (phonological awareness such as rhyming, segmentation, and phonemic awareness such as letter knowledge, and concepts about print) affecting gains in posttest scores. The positive trend in scores supports the efficacy of the treatment.

A Pearson correlation coefficient was calculated for the relationship between subjects' gains on the post-intervention Letter-Word Identification (Woodcock-Johnson) scores and the factors of preschool site, language spoken at home, caregiver's education level, gender, race, special needs, and relationship of primary caregiver. Although significant correlations were not found for all of the factors, a positive, moderate correlation was found \( r (27) = .618, p < .01 \) for the variable of preschool site, indicating a significant linear relationship between the two variables.
A Pearson correlation coefficient was calculated for the relationship between subjects' gains on post-intervention Sound Awareness Total (Woodcock-Johnson) scores and the factors of preschool site, language spoken at home, caregiver's education level, gender, race, special needs, and relationship of primary caregiver. A positive, moderate correlation was found ($r (28) = .422, p < .05$) for the variable of caregiver's education level, indicating a significant linear relationship between the two variables.

The preschool variable was categorized by site, and a Pearson correlation coefficient was calculated for the relationship between background variables and difference in test scores. A positive, strong correlation was found ($r (4) = .971, p < .01$) for the variable, the relationship of the primary caregiver and the student performance on the Letter-Word Identification test (Woodcock-Johnson) at preschool 1. Although similar statistical significance for the other preschools and the other test instruments was not evident, the strong linear relationship of these two variables supports the need for further investigation of the effects of social-emotional variables on the efficacy of the intervention model.

Although this sample was small ($n = 30$), the questions asked were important to learning more about what made these caregivers remain as teachers and directors in these preschools and provide continuity of care. The most-cited positive statements ($n = 8$) were interest of the teachers to work with other teachers and taking more courses to continue to learn about how to reach and teach children. Barriers stated by teachers were cost of classes ($n = 4$) and lack of dependable transportation ($n = 3$). These were important factors for teachers remaining at the preschool. Based on the statistical analysis noted above, education level of teachers and director was the greatest predictor for promoting children’s readiness for school.

Three research foci guided the work of the GCRH: (1) identifying and/or developing research-based strategies and materials that would enhance children's language and communication, (2) determining the effect of implementing research-based professional development that strengthens caregivers’ capabilities to improve children's language and communication, and (3) learning more about continuity-of-care and its impact on children's emergent literacy. Variables such as caregiver retention rates, education level, work experience, length of employment and other factors were investigated as they related to the continuity of care of at-risk preschool children.

The online participants ranked items from most prevalent to least prevalent. The survey revealed that in-service training included safe environments, physical and intellectual growth, child development principles, social-emotional behavior, and curriculum. Seventy-five percent of the participants surveyed have been working in child care for between 2 and 10 years. The majority of participants (87.5%, $n = 7$) believe child care is a long-term career option. In addition, 87.5% of the participants ($n = 7$) feel mostly or completely settled in their current positions. Only 37.5% of participants ($n = 3$) are thinking about leaving their current positions, and two
participants stated they would take another job if more money were offered. This lack of turnover revealed these preschools had good continuity of care for the children, which is contrary to what most preschools face (Dickinson & DeTemple, 1998; Frank Porter Graham Child Development Center, 2002; Karoly et al., 2005). This means that the children remained with the same teacher(s) over a year’s time, which supports the notion of continuity of care for these children.

Information about caregivers was limited to the Online Childcare Worker Survey (OCWS) because formal observation of teachers could not be completed due to reduced funding and time constraints. Teachers typically remained in preschool for a year or more. Only one teacher left during our research project. Additionally, the correlation between education level of caregivers and the continuity of care provided to the preschool children made the largest impact in preparing them for kindergarten. Our research showed that the population of teachers was stable and that the correlation between caregivers and children’s emergent literacy was also impacted.

Another finding from the OCWS showed that with regard to professional development for teachers, no training was given for teacher-parent skills, or time dedicated to the connection between teachers and parents. Since the teachers are school caregivers it seems that this may be a limitation that could be addressed by preschool directors. Teachers also reported barriers, including the cost of classes, followed by unreliable transportation, being responsible for others' children, and slighting time with their own children. Even though all of these constraints were noted, continuity of care for the children was favorable.

Many challenges and opportunities throughout the research project were evident as the concept of continuity of care was explored in the preschools. One major challenge came from changes at the state and national levels. With the change in national politics, funding was greatly reduced in the second year, and the original research was modified in order to meet the Hub goals and funding level.

Another challenge was movement of the project from one county to another due to changes in county leadership and new research goals. With this movement, approvals from the new county District Board and compliance with IRB had to be completed before beginning work in the new preschools. This event was not anticipated, and it was very disappointing to leave preschools where good rapport had been established and children had already been pretested.

Furthermore, governing processes varied from county to county, a complicating factor in any regional research project. The partnership’s expectation that all school districts would be willing to cooperate in a research venture was not always proven correct.
Emergent literacy pretests had to be administered in June and July instead of October of the previous year as originally planned because of delays of final approvals from IRB and parents. As a result, 30 of the children assessed moved into kindergarten in August. However, every effort was made to posttest all of the children who remained in the preschools during the year. These children were all posttested in March 2006 of the following year, but this meant that only about half of the children could be posttested.

In spite of these limitations, each of the four preschool sites showed positive test-score results after the intervention. The investigator recognized that due to the problem of finding paired control groups in the preschool population, the positive results cannot be unequivocally attributed to the intervention model. However, the significant correlations supported the notion that the preschool site, the education level of the caregiver, and the relationship of the child to the primary caregiver are significant factors for children's success (Kagan, 2006).

The GCRH research project originally covered three domains (Communication and Language, Physical Health Status, and Social-Emotional Development). An additional topic, “Staff Retention,” was added due to Hub needs. It was necessary to narrow the scope of the project, especially since funding was curtailed after the first year. This revealed the need for beginning with a smaller project and conducting research in depth in order to be more successful.

The outcomes of the study impacted FAU, the preschool education field, and the community in many ways. The GCRH impacted FAU because it broadened the geographic area of research, thus building new community partnerships. In our Hub, six counties worked together to focus on a mutual research question that stretched from central to south Florida. Collaboration and communication increased around preschool topics, such as emergent literacy and continuity of care of preschoolers. This was a grassroots effort that all of the preschool educators participated in, thereby learning more about these topics. The GCRH met in the north counties as well as at FAU to complete project work.

As a result of this research study, FAU was seen as a community resource for support. Hub representatives learned about other topics from faculty from the College of Science (Psychology), College of Nursing and College of Education (Educational Leadership). As they worked with these faculty members, they learned more about the expertise of these faculties and in some cases invited them to work in their own counties on additional projects. For example, one professor
who focused on staff retention and how it impacts preschools was asked to work on other committees in one school district. The psychology professor shared research on bullying and other issues, so these preschool educators learned more about additional topics that they were addressing in their preschools. The nurse from the College of Nursing provided additional information about the dangers of childhood obesity and how to prevent it.

The community was also impacted in several ways. These six counties became more aware of problem areas, and the similarities and differences in these areas. Large counties had far more resources to assist in some areas than smaller counties. Large counties were therefore able to share information to aid the smaller counties. In another case, many of the preschool representatives did not know about the kind of observations required in Head Start classes. As a result, they became more familiar with the new forms of assessment being used and how they were administered. This provided information to consider in their respective districts.

The Hub project established a new network of preschool stakeholders; these stakeholders came to know the directors in each county and were able to work with them directly in a stimulating environment to help solve mutual problems. National programs that focused on literacy research were also covered in more depth. Sharing knowledge and resources assisted each preschool in learning more about literacy curriculum, and provided help in a variety of areas, such as accreditation, and physical health assistance for children—topics that went far beyond emergent literacy.

At the preschool level, university/practitioner partnerships were formed, increasing practitioners’ knowledge about current research-based information and how to obtain this information. At the beginning of our research, very few of the preschools used the Internet to obtain information. The researcher aided directors in securing the information they needed about various topics. For example, one director wanted information about a balanced curriculum for preschool children, so this was identified and shared with her. Another director had not used a digital camera or video camera to chronicle a child’s learning or archive information to share with parents. The researcher aided in this endeavor so that this could be completed during the year and used in the future. A visit by all directors to a preschool using the Reggio Emilia approach in Miami revealed how a child-centered program enhanced children’s creativity through simple art projects, exploring with sand, and using the overhead projector to demonstrate how to blend colors. Sharing ideas and concerns across preschool sites helped directors understand the need for a balance between academically focused activities and activities that foster creativity in a preschool setting. Preschool practitioners developed trust as they sought advice from each other about problems they faced. The directors of the four preschools met bi-monthly to share successes, participate in workshops, and share information about various topics. These topics
covered the voluntary, universal prekindergarten program in Florida, how to better assist teachers in their teaching, how to work with problem children, and how to obtain speakers for special events such as parent-child-school literacy workshops or celebrations.

In conclusion, this study contributes to the field because it suggests how the consistency and quality of caregivers can affect the emergent literacy learning of young children. A longer, more comprehensive study with a larger population would offer additional information about how these factors contribute to the learning of young children.
References


## Appendix

**Gold Coast Regional Readiness Hub Partnership Members**

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<th>Affiliation</th>
<th>Person’s Name</th>
<th>Organization</th>
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<tr>
<td>University Representative(s)</td>
<td>Dr. Donna Read</td>
<td>Florida Atlantic University, College of Education, Department of Teacher Education</td>
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<tr>
<td>Coalition Co-Chair Gold Coast Readiness Hub</td>
<td>Judy Burleson, Director of Education</td>
<td>Redlands Christian Migrant Association</td>
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<td>Coalition Partner(s)</td>
<td>Penny Westberry, Executive Director</td>
<td>Early Learning Coalition of Broward County</td>
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<td></td>
<td>Susan Schumacher, Executive Director</td>
<td>Early Learning Coalition of Indian River County</td>
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<td>Olan Faulk, Executive Director</td>
<td>Early Learning Coalition of Martin County</td>
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<td>Jodi Tucker, Executive Director</td>
<td>Early Learning Coalition of Okeechobee County</td>
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<td>Linda Protisto, Executive Director (2000-2003)</td>
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<td>Warren Eldridge, Executive Director (2003-2007)</td>
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<td>Nancy Archer, Executive Director</td>
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<tr>
<td>Other Faculty Members</td>
<td>Dr. Valerie Bryan, College of Education, Department of Educational Leadership</td>
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<tr>
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<td>Dr. David Bjorkland, Charles E. Schmidt College of Science Department of Psychology</td>
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<td>Lisa Feeney, Director</td>
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<td>Karen Slattery Educational Research Center for Child Development (KSERCCD)</td>
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<td>Pamela Lester, Visiting Professor</td>
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<td>Christine E. Lynn College of Nursing</td>
<td>Florida Atlantic University</td>
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<td>Barbara Phillips, College of Education Exceptional Student Education</td>
<td>Florida Atlantic University</td>
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<td>Dr. Cecilia Campoverde, College of Architecture, Urban and Public Affairs Department of Social Work</td>
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<td>Community College Representative(s)</td>
<td>Dr. Roanne Moreno, Director</td>
<td>Center for Early Learning at Palm Beach Community College</td>
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<td>Denise Price</td>
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<td>Family Central, Palm Beach &amp; Broward County</td>
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<td>Vesta Hetherington, Director, Special Education</td>
<td>Palm Beach County Schools Early Childhood Special Education</td>
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<td>Community Members</td>
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<td>Jeanne Siccone, Program Coordinator</td>
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Chapter 3

Culturally Congruent Model of Professional Development for Early Care Educators: Florida A&M University and the Early Learning Coalitions of Madison and Taylor Counties

The Alliance of Readiness Coalitions Hub

Gwendolyn Dixon, Sharon Hathcock, Reva Myers, and Ghazwan Lutfi
Abstract

The Alliance of Readiness Coalitions Hub (ARCH) is a collaborative partnership of Florida A&M University and a number of early learning coalitions located in the Florida panhandle. The ARCH stresses the importance of using the child’s culture to facilitate congruency between home and school. Taylor et al.’s (1994) researched-based Values for Life (VFL) curriculum model was used as a tool for professional development and exemplified ARCH’s philosophical approach. Six child care classrooms in Madison and Taylor counties, serving as either experimental or control groups, tested the VFL curriculum, which is designed to promote school readiness, socio-emotional development, and academic success. Results of the beta testing and the replicated study indicated that the VFL curriculum model is a viable tool for promoting teacher professional development and children’s school readiness.
The Alliance of Readiness Coalitions Hub (ARCH) is a collaborative partnership of Florida A&M University (FAMU), the statewide Readiness Hub network, and six Florida panhandle early learning coalitions from Bay, Franklin, Gulf, Madison, Taylor, and Wakulla counties. Taylor and Madison county coalitions volunteered to participate as co-partners of the project in 2003. However, due to changes in the coalitions' structure, the Taylor county coalition was involved as the primary co-partner for the 2005 experimental project.

Originally, faculty members from across the university were invited to an interest meeting at which the Hub's project and its emphasis on school readiness were discussed. Colleagues from early childhood education, elementary education, psychology, and the campus child development center began to frame a plan of how to bring important community stakeholders to the table. Contact was made by email and telephone to representatives of groups required by the Hub's contract. The project Liaison attended coalition meetings to explain the project and garner interest. The first two organizational meetings were held in Tallahassee. In order to develop a sense of ownership and cohesiveness, subsequent monthly meetings rotated among the six counties.

Following much discussion of school readiness in the six-county area and the state’s mandate for the inclusion of character education in the preschool curriculum, Taylor and Madison county coalitions volunteered to co-partner with the university. The socio-emotional, cognitive, and communication domains were identified as the areas in which young children in their service areas demonstrated the most deficits.

Research tells us that the parents and family are the child’s first teachers. Hence when assessing socio-emotional, cognitive, and communication needs, it is important to look at the level of school readiness that the home can provide for the child. Therefore, an assessment of the relationship between the home and the school is also imperative.

The ARCH contends that where there is congruency between the home culture and the school culture, learning is exciting and easy. Where there is a genuine partnership between the child’s family and the child’s school, the child is more likely to receive an education that respects his or her culture and what the child and the family bring to the school setting. An early education program that utilizes a cultural context curriculum will then strengthen self-concept and values, promote communication and literacy, and facilitate school readiness. For this reason, communication, values, and self-concept were chosen as the focus of the team’s beta testing conducted in 2003.

In replicating the study (2005), the early education and care leaders involved with the project stated that professional development was a serious need of those working with young children in their areas. Though professional development training was already included in the existing beta testing, components to strengthen the training and assessment variables were added.
Due to time constraints, the development of a curriculum that embodied the conceptual framework of the culturally congruency model was not possible. The team then began a search for an existing curriculum that was based on the same paradigm. The *Values for Life* curriculum model (VFL; Taylor, Turner, Underwood, Franklin, & Jackson, 1994) was also used as a tool for professional development aimed at promoting the acceleration of children’s cognitive, communication, personal-social, and gross motor development, and exemplified the team’s philosophical approach.

The model identifies 11 critical caregiver behaviors associated with promoting six valued child outcomes identified by parents: (a) interpersonal skills/love and respect, (b) self-reliance, (c) self-confidence, (d) self-persistence, (e) self-esteem, and (f) learning orientation (Taylor, Turner, et al., 1994; Taylor, Thomas, & Bagley, 1999). The critical caregiver behaviors are: (a) provides learning opportunity, (b) stimulates inquisitiveness, (c) stimulates language, (d) expresses affection, (e) communicates warmth, (f) uses induction techniques, (g) gives reinforcement, (h) stimulates on-task behavior, (i) reverses off-task behavior, (j) stimulates autonomy, and (k) stimulates role play. Additionally, according to Taylor, Thomas et al., the VFL curriculum model:

1. Promotes emergent literacy achievement that includes recognition of letters, knowledge that letters relate to sounds, and simple number concepts;
2. Increases basic motivation-cognitive regulatory process and curiosity, excitement and learning, and confidence in one’s ability to learn; and
3. Improves socio-emotional skills—the capacity to understand other’s feelings and viewpoints, cooperation with teachers and peers, self-regulation and control, and improves the ability to resolve conflicts constructively.

A major focus of the model was communication and collaboration between home and school and the use of culturally specific heroes and heroines as essential components of the daily curriculum. The curriculum was designed for children from birth through 5 years of age.

**Research Questions**

The project’s research questions became:

1. Will the *Values for Life* child care model have a significant positive impact on the children’s readiness for kindergarten in the areas of communication, values, and self-concept as defined by this project?
2. Will the *Values for Life* child care model have a significant positive impact on teacher or caregiver behavior as measured by the teacher rating scale developed for this project?
Expressive and receptive communication skills are linked to emergent and early literacy skills important to reading and school success (Barbarin, 2002; Dickinson & Tabors, 2002). Children entering school without these basic skills are expected to catch up with more advanced peers. However, many do not. They become poor readers, perform poorly on high-stakes assessments, and experience school failure.

Self-concept and academic achievement, highly valued assets in European-American society, have a historical relationship. Children with high self-concept have been expected to perform better academically than children with low self-concept (Allen & Bagozzi, 2001). Harter (1983) reported that children with high self-concept experience achievement mastery to a greater degree than children with low self-concept. As such, children who experience achievement mastery develop positive feelings of efficacy because they see themselves as competent and responsible for their success (Harter). These positive feelings of efficacy help children to feel competent and confident to undertake new and difficult challenges; whereas children who do not experience achievement mastery are more likely to withdraw and retain debilitating expectations and fears (Bandura, 1977).

Since the early 1990s, an increased interest in character and values education is evident in schools across the United States, with some states and districts mandating its inclusion in the curriculum (Jones, 2000; Lasley, 1997; Milson & Mehlig, 2002; Mulkey, 1997; Sommers, 2002). Character is both developmental and shaped by the process of socialization, and directly and indirectly reflecting the values, beliefs, and goals of the parents, school, community, and world. The family and caregivers, though, are the earliest developers of character. The family’s process of socialization is grounded in its cultural paradigm and determines its desired outcome values for the children.

Professional development can be defined as activities designed to enhance job performance of teachers or early care educators. Various levels of professional development may include in-service hours, workshops, seminars, pre-service training, Child Development Associate certificate or equivalency, college credit hours and/or degrees, and field experience (Birken, 2005; Bowman, Donovan, & Burns, 2000; Phillips, 1994). Based upon its review of research, the Eager to Learn text edited by Bowman et al. stated: “The knowledge and skills of teachers are among the most important factors in determining how much a young child learns” (p. 262).

A number of educator behaviors and characteristics are suggested as important to child outcomes. Some common threads include: (a) the ability to establish a collaborative relationship with the child’s family, (b) responsiveness to the child’s culture, (c) knowledge of child development, (d) the ability to exhibit positive social-emotional interaction between child and early educator, (e) the ability to implement a developmentally appropriate curriculum, (f) the ability to conduct and utilize appropriate observation and assessment of young children, and (g)
educator beliefs and attitudes coupled with the ability to self-reflect and apply evidence-based strategies to their teaching (Baker & Manfredi-Petitt, 2004; Birken, 2005; Bowman, et al., 2000; Hyson, 2000; National Association for the Education of Young Children [NAEYC], 2005; Love, 1997; Phillips, 1994).

Methodology

The beta testing involved the comparison of two groups, an experimental and a control, over a 6-week period. The experimental group consisted of 44 children enrolled in Head Start, prekindergarten, faith-based, and private centers. The control group consisted of 33 children enrolled in Head Start and prekindergarten.

Teachers in the participating classrooms were provided professional development training in the Values for Life early child care model and values inventory (VAL-O; Taylor & Franklin, 1998). They were also trained in the administration of the Kaufman Survey of Early Academic and Language Skills (K-SEALS; Kaufman & Kaufman, 1993). Each of the experimental classrooms was provided materials and supplies needed for the implementation of the intervention phase of this project. Pre- and post-K-SEALS and VAL-O were also administered to each of the participants by the classroom teacher. The university faculty tabulated the scoring of the assessment booklets. Teachers in the experimental group were expected to exhibit the 11 caregiver behaviors. The experimental group implemented the VFL curriculum, which included posting the targeted values in the environment and learning centers. The targeted values were also distributed to parents, with suggested activities for home implementation. Learning centers (dramatic play, blocks, book corner, neighborhood walks) were set up to encourage children to express behaviors associated with the targeted values. Teachers planned and implemented a daily 20-minute communal lesson or activity during circle time to promote the targeted value.

For children with specific needs or children who exhibited challenging behaviors, individualized lessons and specific critical caregiver behaviors were implemented to target the desired value. Pre-planned lessons were available in the VFL curriculum, or teachers were free to design their own related lessons. A literacy component was added to enhance the promotion of the targeted values. Each experimental classroom was provided with a set of children’s books that focused on character values. Each storybook had an annotation and a suggested activity or activities that could easily be implemented in the home. Teachers would recommend a specific storybook to the parent when there was a need, and parents were generally encouraged to check the storybooks out, use them in the home, and return them to their child’s classroom. Teachers in each of the experimental classrooms implemented the VFL curriculum over a 6-week period. University faculty visited each classroom weekly to serve as coaches.
Results from the two instruments were subjected to dependent and independent t-tests. The purpose of the test was to determine whether there was a significant difference in performance between the experimental group and the control group. A significance level of .05 was used in the analysis. Correlation coefficients were also tabulated to ascertain the relationship between communication variables. A significance level of .01 was used to analyze the correlation data.

Several similarities and differences were noted between beta testing (2003) and the replication of the study (2005). Similarities included winter implementation period, the professional development training, the provision of curriculum materials, lesson plans and storybooks, coaching, and the tested variables. Participants were offered several incentives for their involvement in the project (release time, pay for substitute teachers for classroom coverage during training, Continuing Education Units, and reimbursement for mileage).

The major differences were sample sizes, participating centers, implementation time line, teacher responsibilities, free curriculum materials, the addition of two variables, and an extended professional development/training period.

For the beta testing, the sample sizes were 44 for the experimental group and 33 for the control group, as compared to 41 and 31 respectively in the replicated 2005 study. The faith-based center did not participate in the replicated study. The implementation time line was increased from 6 weeks for the beta testing to 8 weeks in the replicated study. This extended the timeframe for affecting anticipated outcomes for children. Whereas teachers participating in the beta testing were responsible for conducting pre-, mid-, and posttesting of the VAL-O Inventory and the administration of the K-SEALS screening instrument, teachers in the replicated study were only responsible for administering the pre- and post-VAL-O Inventory. To encourage timely completion of forms and records, teachers were offered a $25 voucher for educational materials for their classrooms. Teachers in the beta testing phase participated in 2 consecutive days of professional development training, whereas teachers in the replicated study received 4 days of training over a 2-week period. The introduction of two new variables in the replicated study, the Joseph Self-Concept Scale and the Teacher Behavior Rating Scale, provided additional insight and data for analysis.

Recruitment for project replication participants began in January 2005, and training commenced during the first week of March. Teachers conducted pretest and posttest assessment of the values. University faculty and paid assistants conducted pre- and posttesting of emergent literacy, vocabulary, communication, numbers, and self-concept on each participating child. The implementation phase of the project began in mid-March; post-assessment was conducted in May.

The initial replication experimental group consisted of 53 children enrolled in Head Start, prekindergarten, and a private center during an 8-week period. The control group consisted of 36
children enrolled in two Head Start and prekindergarten classrooms. Due to attrition, the final sample sizes consisted of 41 children in the experimental group and 31 children in the control group. Two reasons for the decrease in sample sizes were that families relocated to different school districts and/or became ineligible to participate in the Head Start or prekindergarten programs.

The K-SEALS was used to assess receptive and expressive language skills, numbers, letters, words, and vocabulary. The VAL-O inventory was used to assess the targeted values—interpersonal skills/love and respect and learning orientation. The Joseph Picture Self-Concept Scale, Form Y (Joseph, 2004) was used to further assess self-concept. A parent survey instrument, consisting of 10 statements on a Likert scale, was developed to gather data on the parental use of the storybooks (literacy) and activities sent home, as well as parental perception of change in child behavior. A teacher rating scale was developed by the university team to assess change in caregiver or early care educator behavior that may have resulted from participation in the professional development training.

Six hypotheses were tested in this study to address the two initial research questions proposed in the study. Hypotheses one through five answer the first research question related to child outcome in both literacy-related areas and social skills. Hypothesis six answers the second research question related to caregiver behavior.

**Parents and Early Literacy**

Hypothesis 1: There would be a significant difference in performance between the experimental group and control group from pretesting to posttesting in the following areas: (a) vocabulary; (b) expressive language; (c) receptive language; and (d) numbers, letters, and words. A non-directional $t$-test for two dependent samples was performed on the data with a level of significance equal to .05. Analysis of the data found that in the area of communication involving vocabulary, the experimental group showed more gain than the control group; however, the gain was not statistically significant (see Table 1).
A non-directional *t*-test for two dependent samples was performed on the data with a level of significance equal to .05. In examining the results of expressive language performance, analysis showed a significant difference for both groups; however, the experimental group scored lower than the control group at pre- and posttest (see Table 2).

### Table 2

**K-SEALS Expressive Language**

<table>
<thead>
<tr>
<th>Group</th>
<th>Num</th>
<th>PRE Mean</th>
<th>PRE SD</th>
<th>POST Mean</th>
<th>POST SD</th>
<th>Pre to Post Mean</th>
<th>Pre to Post SD</th>
<th>Sig</th>
</tr>
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<tbody>
<tr>
<td>Experimental</td>
<td>41</td>
<td>101.32</td>
<td>13.00</td>
<td>102.17</td>
<td>12.50</td>
<td>.85</td>
<td>5.78</td>
<td>.350</td>
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<tr>
<td>Control</td>
<td>31</td>
<td>102.68</td>
<td>10.21</td>
<td>103.00</td>
<td>12.10</td>
<td>.32</td>
<td>8.39</td>
<td>.832</td>
</tr>
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</table>

* .05 Significance level

A non-directional *t*-test for two dependent samples was performed on the data with a level of significance equal to .05.

No statistically significant difference between the two groups was found for receptive language performance. The gain, though not significant, was slightly higher for the experimental group. However, both groups scored lower in the posttest than they did in the pretest (see Table 3).
A non-directional $t$-test for two dependent samples was performed on the data with a level of significance equal to .05.

There was a statistically significant difference between the two groups on the subtest involving numbers, letters, and words with the relative gain in the experimental group (see Table 4).

**Table 3**

*K-SEALS Receptive Language*

<table>
<thead>
<tr>
<th>Group</th>
<th>Num</th>
<th>PRE</th>
<th>POST</th>
<th>Pre to Post</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>102.51</td>
<td>11.93</td>
<td>100.95</td>
<td>11.98</td>
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<tr>
<td>Experimental</td>
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<td>-1.56</td>
<td>6.31</td>
<td>.121</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>31</td>
<td>101.97</td>
<td>10.05</td>
<td>100.81</td>
<td>11.44</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-1.16</td>
<td>7.59</td>
<td>.401</td>
<td></td>
</tr>
</tbody>
</table>

* .05 Significance level

Hypothesis 2: There would be a significant relationship between expressive language performance and receptive language performance. Pearson Product-Moment Correlation $r$ was calculated to measure the relationship between the two variables. As hypothesized, there was a significant positive relationship between expressive language and receptive language.

Hypothesis 3: There would be a significant relationship between vocabulary performance and expressive language performance. Pearson $r$ was calculated to measure the relationship between the two variables. There was a significant positive relationship between vocabulary performance and expressive language performance.

Hypothesis 4: There would be a significant relationship between vocabulary performance and receptive language performance. Pearson $r$ was calculated to measure the relationship between the two variables. There was a significant positive relationship between vocabulary performance and receptive language performance.
the two variables. There was a significant positive relationship between vocabulary performance and receptive language performance.

Hypothesis 5: There would be a significant difference in performance between experimental group and control group from pretesting to posttesting on the following: (a) learning orientation, b) interpersonal skills/love and respect, and (c) self-concept. A non-directional t-test for two dependent samples was performed on the data with a level of significance equal to .05.

When analyzing the outcome performance on the Value-Learning Orientation, the data showed that both groups made significant gains; however the difference between the two groups was not significant (see Table 5).

Table 5
Value-Learning Orientation

<table>
<thead>
<tr>
<th>Group</th>
<th>Num</th>
<th>PRE</th>
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<th>Pre to Post</th>
<th>Sig</th>
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<td>Mean</td>
<td>SD</td>
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<tr>
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<td>41</td>
<td>110.53</td>
<td>32.60</td>
<td>138.23</td>
<td>26.64</td>
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<tr>
<td>Control</td>
<td>31</td>
<td>88.70</td>
<td>25.08</td>
<td>119.43</td>
<td>26.69</td>
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</table>

* .05 significance level

A non-directional t-test for two dependent samples was performed on the data with a level of significance equal to .05.

A similar result for the value Interpersonal Skills/Love and Respect was found with both groups showing significant gains (see Table 6).

Table 6
Value-Interpersonal Skills/Love and Respect

<table>
<thead>
<tr>
<th>Group</th>
<th>Num</th>
<th>PRE</th>
<th>POST</th>
<th>Pre to Post</th>
<th>Sig</th>
</tr>
</thead>
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<td></td>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Experimental</td>
<td>41</td>
<td>116.14</td>
<td>29.71</td>
<td>140.93</td>
<td>20.14</td>
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<tr>
<td>Control</td>
<td>31</td>
<td>96.97</td>
<td>26.74</td>
<td>128.94</td>
<td>23.68</td>
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* .05 significance level
A non-directional $t$-test for two dependent samples was performed on the data with a level of significance equal to .05.

The 2003 beta testing displayed similar trends in the results in the area of vocabulary, expressive language, value-learning orientation, and value-interpersonal skills/love and respect. This is an increase in the mean results. The mean results in the areas of receptive language and numbers, letters, and words were opposite in that the 2005 results displayed a decrease from the pretest to the posttest in both the experimental and the control group; the 2003 mean results displayed an increase in both groups.

Analysis of the self-concept data showed a significant gain for both the experimental group and the control group from pretest to posttest. No statistical significant difference between the two groups was found (see Table 7).

**Table 7**

*Joseph Picture Self-Concept*

<table>
<thead>
<tr>
<th>Group</th>
<th>Num</th>
<th>PRE Mean</th>
<th>PRE SD</th>
<th>POST Mean</th>
<th>POST SD</th>
<th>Pre to Post Mean</th>
<th>Pre to Post SD</th>
<th>Sig</th>
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</thead>
<tbody>
<tr>
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<td>49.61</td>
<td>10.88</td>
<td>54.76</td>
<td>9.54</td>
<td>5.14</td>
<td>9.67</td>
<td>.000*</td>
</tr>
<tr>
<td>Control</td>
<td>31</td>
<td>46.81</td>
<td>8.73</td>
<td>52.41</td>
<td>8.97</td>
<td>5.59</td>
<td>10.18</td>
<td>.000*</td>
</tr>
</tbody>
</table>

* .05 significance level

Hypothesis 6: There would be a significant difference in caregiver behavior from pretesting to posttesting with respect to each item in the survey. A non-directional $t$-test for two dependent samples was performed on the data with a level of significance equal to .05.

The mean analysis of the caregiver or teacher behavior showed significant positive gains from pretest to posttest for 7 of the 15 items measured. Items included such caregiver behaviors as “Teacher treats children of all races, religion, family backgrounds, and cultures with equal respect and consideration”; “Teacher encourages children's development on independent functioning (self-help) as appropriate”; and “Teacher is available and responsive to children.” Items that did not show positive gains were already relatively high at pretest.

**Parent Literacy Survey**

The parents of the children responded to a survey about the storybooks and reading activities that were sent home. Analysis of the responses from the parents was positive. All the statements
indicated a positive attitude toward the storybooks, and parents felt that they improved the child’s love and respect for self and others. Parents also stated that the reading activities suggested by the teacher were utilized in the home.

Discussion and Implications

The overall goal of the statewide Hubs Pilot project was to transform fragmented outside-the-home early care programs into a high-quality and equitable early care and learning system that helps to close the readiness gap and level the playing field for at-risk children entering kindergarten. A major venue to accomplish this is through professional development of those entrusted with early care and learning. The study, though showing mixed results, does indicate the worth of the VAL-O early care model as a school readiness model. Caregiver (educator) behavior, which is seminal to the model, is very important to the educational process.

A number of significant challenges occurred during the period of the project. The inability to complete training and begin the implementation at the start of the school year negatively impacted the project. Participating teachers overwhelmingly stated that the implementation period was too short and that starting halfway through the school year confounded results. It was recommended that the implementation phase of the project commence with a new school year.

The VFL curriculum model is designed for use with children from birth to age 5 over an extended period of time. A longer implementation period may have produced better results. Due to funding and time constraints, the child outcomes were not as significant as perhaps they would have been had there been a longer implementation period. New concepts and curriculum are part of the new school year. By winter and spring children have been introduced to and have learned new knowledge and many new skills. It then becomes difficult to separate the impact of different variables. This is especially true since Florida is currently involved in a major literacy initiative.

Completing the posttesting, which occurred during the last 2 weeks of school, was a major challenge. End-of-the-year activities (field trips, parent visitation day, fun and carnival activity, and graduation practice) not only presented a scheduling problem, they impacted the participation and performance of the children. The children were so excited and distracted that even the most experienced testers found it difficult to maintain their attention.

The distance between the nearest county and the farthest county drastically impacted meeting dates and times. It is 101 miles from Port St. Joe to Tallahassee, and 85.7 miles from Tallahassee to Chipley. The travel time required that some team members take the entire day away from their workstations.

A primary goal of preschool education is to increase children’s cognitive skills and general knowledge (Florida School Readiness Performance Standards, 2002), but many early education
professionals and caregivers think it is more important to help each child develop a sense of social acceptance, emotional stability, physical well-being, spiritual enlightenment, and cultural congruency (Marshall, 2001).

After revisiting 12 years of self-concept development research, Marshall (2001) concluded that cultural values affect self-esteem. He stated that different cultures may value and encourage different behaviors. Finding an appropriate tool that measured self-concept in young children was difficult. A self-concept tool that is sensitive and responsive to preschool age and culture is needed.

**Anticipated and Unanticipated Outcomes of the Study and of the Process**

Limited participation of faith-based programs was an anticipated problem. Most programs in rural areas are small and generally utilize a prescribed curriculum. We were able to involve one faith-based program during the beta-testing but were unable to do so for the replication phase.

An unanticipated outcome of the process was the difficulty in recruiting program participants. Several incentives were offered during the recruitment phase, but these produced only one private center and no faith-based centers. The training was advertised as a free service to those willing to participate. The cost of a substitute to cover the classroom during the training period was also offered. A major factor was the lack of qualified substitutes in the area for programs to hire. The training was provided during teachers’ planning time or children’s nap time. Nevertheless, in some instances, the classroom aide was still unable to attend the training sessions.

The unanticipated difficulty of involving a variety of programs also impacted the sample size. Including more program types and multiple classrooms in each program type would have increased the sample. A larger sample size would allow for the performance of more sophisticated data analysis.

Though FAMU provides degree programs at a community college that draws from several of the counties involved in the study, the *Regional Hub* provided an opportunity to connect with the communities and to impact services to children and families through the community’s early education programs.

The project also brought together a collaborative group of early education stakeholders. The individual and collective expertise of the team members ensured the success of the project. The team members were the primary conduits to local coalitions and to the community programs. It was through the efforts of the local team members that programs agreed to participate. Local stakeholders were important community leaders and/or service coordinators or providers of services to programs.
The primary goal of The Alliance of Readiness Coalitions Hub (ARCH) was to identify and implement a research-based curriculum model that would promote school readiness, cultural congruency between home and school, and professional development. The VAL-O curriculum model proved to be a viable model for accomplishing the stated goal.

Results of this study indicated a need for professional development training that equips caregivers to handle children’s social-emotional development, especially as it relates to behavior and school readiness. Secondly, there is a need to replicate this study across cultures and program types over an extended period. Thirdly, there is a critical need for valid and reliable instrumentation that measures self-concepts of young children.

An unanticipated observation was the multiplicity of challenges faced by families in the two participating rural communities, such as high poverty rate, the degree of illiteracy, teenage pregnancy, violence, and crime. These factors may influence the level of school readiness and child outcomes for children living in rural communities across America. This observation, however, warrants further investigation.

The ARCH partnership provided an opportunity for representatives from the university to collaborate with school readiness stakeholders, offer support to local agencies, and open other avenues of university support. The work that began with ARCH extended beyond regional borders. For example, participating teachers presented the project at a professional development conference for early childhood educators, sharing VAL-O as a resource to meet the state mandate of providing character education in preschool. Future avenues of collaboration may include internships, training sessions, and providing speakers for professional groups.
References


## The Alliance of Readiness Coalitions Hub Partnership Members

<table>
<thead>
<tr>
<th>Affiliation</th>
<th>Person’s Name</th>
<th>Organization</th>
</tr>
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<tbody>
<tr>
<td>University Representative(s)</td>
<td>Dr. Gwen Dixon</td>
<td>Florida A&amp;M University</td>
</tr>
<tr>
<td>Coalition Partner(s)</td>
<td>Lucille Day</td>
<td>Madison County Coalition</td>
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<td></td>
<td>Sharon Hathcock</td>
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<td>Bill Khodr</td>
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<td>Other Faculty Members</td>
<td>Dr. Reva Myers</td>
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<tr>
<td></td>
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<td>Dr. Huberta Jackson-Lowman</td>
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<td>Dr. Ghazwan Lutfi</td>
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Chapter 4

The Early Literacy and Learning Model (ELLM)—An Early Literacy Curriculum and Instructional Support System: The University of North Florida and the Early Learning Coalition of Duval

First Coast Regional Readiness Hub

Janice Wood and Toni Crawford
The Early Literacy and Learning Model (ELLM) is a research- and standards-based early literacy curriculum and instructional support system. The ELLM curriculum consists of explicit instructional strategies that classroom teachers use for 1 hour each day to provide emergent literacy experiences and help children acquire literacy skills. Selected child care centers serving 4-year-old children from low-income neighborhoods participated in this study. A literacy coach visited each ELLM teacher for 1 hour every week. Pre- and posttest data were collected on the children’s emergent literacy ability and their ability to recognize the alphabet letters. The results used data collected over the 5 years. The research question was designed to determine if ELLM is effective in improving the emergent literacy abilities of 4-year-old children from low-income neighborhoods. The results showed that the emergent literacy achievement of 4-year-old at-risk children attending ELLM classrooms in four different types of child care programs significantly improved.
The past decade has seen an increasing interest in the readiness of young children for school as education policy makers have sought ways to strengthen knowledge about preschool literacy and interventions that can enhance children’s literacy skills. Learning to read well is necessary if children are to be successful in school. According to research studies, large achievement gaps persist between children from low-income families and their peers from more affluent families. More recent research findings confirmed that if children enter school behind, they are likely to remain behind (Juel, 1988; Perie, Moran, & Lutkus, 2005; Snow, Burns, & Griffin, 1998).

Studies revealed that children who participated in high-quality early care and learning are more likely to develop better cognitive and language skills, with the strongest effects for children from low-income families and neighborhoods (Barnett, 1995; Currie, 2001). Transforming early care programs into high-quality early care and learning programs is no simple matter. Substantial challenges exist in moving from a custodial mode to one that focuses on high-quality, research-based early learning and care.

The Early Literacy and Learning Model (ELLM) project is a research- and standards-based early literacy curriculum and instructional support system. This chapter presents the results of an investigation using data collected over the past 5 years. The research question was designed to determine if ELLM is effective in improving the emergent literacy abilities of 4-year-old children from low-income neighborhoods.

The goals of the ELLM project included the following:

- Refine ELLM to ensure that the program evolves as a scientifically based, evidence-based initiative.
- Employ systematic, empirical research methods that apply rigorous procedures to obtain knowledge relevant to early literacy; that draw on experiments involving rigorous data analyses; that test stated hypotheses; and that justify general results and conclusions.
- Develop an early literacy research base and an instructional focus in read-aloud, oral language and listening, letter and sound awareness, phonological awareness, and print concepts and emerging writing.
- Implement the ELLM initiative in selected child care centers in northeast Florida and form partnerships with the Florida Partnership for School Readiness and the Early Learning Coalition of Duval, Inc. to expand the ELLM project to five additional counties in Florida.

Anchor agencies committed to the improvement of early literacy forged a 5-year partnership in northeast Florida. Working partners included the University of North Florida, the Early Learning Coalition of Duval, the Jacksonville Urban League Head Start, the Duval County School District, the faith-based Alliance for Child Development, and the Jacksonville Children's Commission. Since the Early Learning Coalition of Duval was charged with improving the quality of child care centers,
they participated as a collaborative partner. The partnership was led by the Florida Institute of Education (FIE), a statewide research center based at the University of North Florida that provides leadership for improvement of education at all levels. These ELLM partners strengthened collaboration among teachers, child care practitioners, and researchers and provided support for classroom implementation.

An Implementation Team composed of representatives from the anchor partners guided the partnership. The Implementation Team was charged with creating a culture of cooperation, supporting ongoing literacy achievement, developing ongoing communication, and developing strategies to institutionalize effective practices.

**Statement of the Problem**

Large achievement gaps persist between children from low-income families and their peers from more affluent families. Recent research findings confirm that children who enter school behind, are likely to remain behind (Juel, 1988; Perie et al., 2005; Snow et al., 1998). ELLM, a standards-based early literacy curriculum and instructional support system designed to increase the early literacy achievement of at-risk preschool children, was developed on a foundation of scientific research and provides preschool teachers with the early literacy training and tools they need to improve children’s early literacy achievement. The research question posed: Would the implementation of the ELLM program be effective in improving the emergent literacy achievement of 4-year-old children from low-income families that are enrolled in four different types of child care programs?

**Literature Review**

The research on early literacy development has coalesced around the need for children to be exposed to five major literacy areas:

- Reading Aloud and Emergent Comprehension
- Oral Language, Listening, and Vocabulary Development
- Letter and Sound Awareness
- Phonological Awareness
- Print Concepts and Emergent Writing

**Reading Aloud and Emergent Comprehension**

Read-aloud sessions introduce children to the joy of reading and the art of listening (Morrow, 2005). Reading aloud to children is the most highly recommended activity for the development of
language and literacy (Adams, 1995). It is ranked as the most important strategy to build the knowledge children need to develop reading skills and be successful readers in the future. As a read-aloud session is conducted in the classroom, children develop vocabulary skills, concepts of print, and the knowledge of story structure. During read-aloud sessions, dialogic reading can improve language skills of children (Lonigan, Burgess, Anthony, & Barker, 1998; Whitehurst & Lonigan, 1998). During dialogic reading sessions, children become active participants in the read-aloud sessions. Understanding this, read-aloud sessions should be conducted every day in the classroom (Fisher, Flood, Lapp, & Frey, 2004). Children practice independent reading when they pick up a picture book and “read” the pictures. Children independently read wordless books at any age and in any language (Cullinan, 2000). During independent reading time, children may “read” to the teacher or a peer. Young children enjoy talking about the content of the book and become engaged in conversations with other classmates. Children may re-read books that the teacher has already read to them, then discuss the content and consider the various aspects of print. In doing so, children model the expressions and gestures used by the teacher.

**Oral Language, Listening, and Vocabulary Development**

Research studies have indicated that young learners perform better when language arts skills (listening skills, oral language skills, and vocabulary development) are taught and integrated in the classroom (Xue & Meisels, 2004). Educational research has shown the strong relationship between vocabulary knowledge and reading comprehension. The amount of time spent in the classroom on explicit and implicit instruction of vocabulary greatly influences the number of words children learn (McKeown & Beck, 2004). Children who receive robust instruction in vocabulary enhance their understanding of words and comprehension. Another component involves listening—the ability to attend to directions, connect sounds that letters make, recognize patterns in rhyming, process the meaning of information, and store information in working and long-term memory and then act on it (Van Laan, 1992).

**Letter and Sound Awareness**

Knowledge of letters and their sounds are two skills necessary for literacy acquisition. Children are exposed to the alphabet in various ways. The integration of letter-sound knowledge and phonetic skills are crucial elements for the development of basic reading skills (Oudeans, 2003). According to Bond and Dykstra (1967) and Chall (1967), a child’s knowledge of letter names is the best predictor of beginning reading achievement. Adams (1995) and Honig (2001) also concluded that alphabet knowledge is a powerful predictor of future literacy success. After children have gained letter-sound knowledge, they are able to connect each letter with an individual phoneme (sound) and begin sounding out words (Dodd & Carr, 2003). A child with fluid recognition of letters will find learning about letter sounds and word spellings easier than a child who lacks this skill (Wood & McLemore, 2001). Knowledge of the alphabet is the foundation
skill for early literacy because it improves visual word recognition and allows children to bridge the gap between a visual cue and a phonemic cue.

**Phonological Awareness**

Phonological awareness is a predictor of reading success and a critical ingredient in learning to read and spell words (Snow et al., 1998). Phonological awareness can be defined as the conscious sensitivity to the sound structure of language. It includes the ability to detect, isolate, manipulate, blend, or segment words, syllables, or phonemes. When a child possesses a high level of phonological awareness, he will perform more successfully when learning how to read (National Reading Panel, 2000). When children get explicit instruction in phonological awareness, incidences of reading failure decrease (Adams, 1995; Snow et al.).

**Print Concepts and Emergent Writing**

Writing is a symbolic tool that links our experiences and interaction. Children learn to conceptualize this idea through their experiences (Dyson, 1986). According to Neuman and Roskos (1998), children construct their knowledge of print in fairly consistent ways. Children’s language learning, in both oral and written forms, can be greatly enhanced by occasions that make use of their developing skills. Providing a print-rich environment gives children opportunities to explore written language through exposure to print symbols throughout the day. Teachers can develop print-richness by labeling furniture, providing space and supplies for early writing experiences, and flooding classrooms with print posters, charts, audio and print books, storytelling props, and paper and writing instruments. Young children rely on their abilities to use multiple symbols to represent the meaning of their texts (Dyson, 1986). These symbolic systems consist of drawing, movement, and talk as children continuously attempt to find varied methods to explain their written messages (Genishi, Stires, & Yeng-Chan, 2001).

**The ELLM Intervention**

The ELLM curriculum consisted of learning materials and instructional strategies that classroom teachers used for 1 hour each day to provide emergent literacy experiences and help children acquire literacy skills. The curriculum was based on 52 children’s books and was supported by monthly instructional packets based on research and performance standards. The monthly literacy packets focused literacy activities in each of the five literacy components. Classroom teachers spent 1 hour throughout the day on both large-group and small-group instruction. In a typical ELLM classroom, ELLM teachers read to children at least four times daily and implemented frequent high-level questioning strategies. During independent reading, some teachers implemented partner reading. Children, paired with a classmate, took turns “reading” to each other and discussed highlights of the story. Five to 8 minutes of independent reading were scheduled daily. In addition to reading aloud and independent reading, children received daily
instruction in oral language, listening, and vocabulary and daily experiences with letters, including letter naming, letter sounds, and letter reproduction. ELLM children spent 15 minutes daily on explicitly taught phonological stages:

- Concept of Word
- Onset and Rime Blending
- Beginning Sound Recognition
- Onset and Rime Segmentation
- Rhyming Word Recognition
- Phoneme Isolation
- Beginning Sound Application
- Phoneme Blending
- Rhyming Word Application
- Phoneme Segmentation
- Syllable Segmentation
- Phoneme Manipulation

ELLM children were given daily opportunities to develop their drawing and writing skills through practice in the Writing Center.

Large-group instruction was extended in specific literacy learning centers: Letter Center, Listening Center, and Writing Center. These centers offered children multiple opportunities to practice skills and build understanding of skills learned in large-group instruction. At the Listening Center, children listened to familiar books and songs on audiotape. In the Letter Center, children explored and manipulated a variety of uppercase and lowercase letters and letter games. In the Writing Center, children were given daily opportunities to develop their drawing and writing skills through practice. They explored and used a variety of writing instruments to draw and form shapes, lines, letters, words, and sentences.

Extensive materials and resources supported the implementation of the ELLM curriculum. ELLM Monthly Literacy Performance Standards identified intended outcomes. Monthly literacy packets and accompanying children’s books supported classroom instruction. ELLM teachers received additional resource guides that included guidelines for rituals and routine activities, Word Wall implementation activities, phonological awareness activities, and thematic songs and poems.

Each ELLM classroom teacher maintained a classroom lending library that enabled children to take books home regularly/daily to share with their parents. Other family materials included a monthly Family Tips flyer and literacy calendars that contained simple literacy activities that families could do together. In addition, each ELLM teacher sponsored four family literacy events per school year.

The ELLM instructional support system supplied an ELLM literacy coach for each classroom. These literacy coaches provided teachers with weekly, 1-hour coaching sessions designed to enhance and change instructional practices. The literacy coach modeled effective instructional
strategies, observed the teacher during instructional episodes, and held weekly conferences with teachers. Each ELLM literacy coach received professional development through an intensive week-long summer institute that developed emerging literacy expertise and effective coaching skills. The ELLM literacy coaches continued their professional development through biweekly coaches’ seminars during the school year. In these seminars, coaches shared personal issues and concerns and continued to gain knowledge about effective implementation procedures.

The ELLM instructional support system also provided professional development for preschool teachers with a 2-day intensive summer training workshop that focused on each of the five classroom components. The workshop reviewed the research base for each of the components and described ELLM implementation practices. Once the ELLM program implementation began in the classrooms, the ELLM literacy coach visited the teachers weekly to provide ongoing professional development. During these weekly coaching sessions, teachers received follow-up support through in-depth observations and feedback sessions. Teachers and coaches interacted about the use of monthly literacy packets, teacher support materials, and teaching strategies. To further teacher professional development, monthly literacy team meetings were held at each school site, and four teacher get-togethers were held during the school year. The teacher get-togethers provided networking activities and opportunities for teachers to continue to develop knowledge and skills through sharing and problem solving.

Methodology

Four-year-old at-risk children attending four different types of child care centers participated in the study. The beta-test sites included one Head Start site, one subsidized child care site, one faith-based site, and one public school site. The ELLM program was used for 1 hour per day in each of these classrooms.

Data were collected on the children’s ability to recognize the alphabet letters, and their emergent literacy ability was measured by the Test of Early Reading Ability - Third Edition, Form A (TERA-3). The TERA-3 assessed components of early developing reading skills that included: familiarity with the letters of the alphabet and numerals, discovery of the arbitrary conventions used in reading and writing English, and recognizing that print conveys information, ideas, and thought. The test is composed of three scales, each measuring one of three components: the Alphabet scale, the Conventions of Print scale, and the Meaning scale. A composite score, the Reading Quotient, was the standardized sum of the three scale standardized scores. Trained assessors collected pretest and posttest evaluations during September 2004 and May 2005.

The Alphabet Letter Recognition Inventory (ALRI) is a locally developed inventory of the children’s ability to recognize the uppercase and lowercase letters of the alphabet. A pretest and posttest design was implemented, and teachers presented uppercase and lowercase letter...
flashcards, arranged in a fixed non-alphabetic order, to each child. The child was asked to name each letter. The children’s pretest and posttest responses from both measures were recorded on scannable forms and computer scored. ELLM teachers were encouraged to use the pretest ALRI scores to tailor their alphabet letter recognition and naming instructional strategies to the needs of the children in their classrooms.

**Findings**

One hundred and six ELLM preschool children in the four beta child care centers had TERA-3 pretest and posttest scores. When compared to a national normative population of children of similar age, the TERA-3 Reading Quotient of the typical ELLM preschool child ranked at the 38th percentile at pretest and at the 50th percentile at posttest. Furthermore, the TERA-3 Alphabet scale score of the typical ELLM preschool child ranked at the 61st percentile at pretest and at the 81st percentile at posttest (Figure 1). Consequently, at the end of the school year, the typical ELLM preschool child’s TERA-3 Reading Quotient score ranked at the national average, and the TERA-3 Alphabet scale score ranked in the 75th quartile.

![Figure 1. Pretest and posttest TERA-3 scores of the ELLM preschool children.](image)

Figure 2 shows the ELLM children’s ALRI scores. One hundred four children had pretest and posttest scores by recognition category. ALRI scores are reported in four recognition categories, 0 to 13 letters, 14 to 26 letters, 27 to 39 letters, and 40 to 52 letters. The Early Childhood Longitudinal Study–Kindergarten (ECLS-K) provided national benchmarks for alphabet letter recognition. Using a random sample of uppercase and lowercase letters, scores were categorized...
as proficient if children recognized at least 75% of the sampled letters (West, Denton, & Reaney, 2001). Reports from the ECLS-K stated that 66% of the children entering kindergarten for the first time were proficient at letter recognition (Coley, 2002). Compared to these national benchmarks, 86% of ELLM preschool children recognized at least 40 uppercase and lowercase letters and were therefore proficient.

![Figure 2. ALRI pretest and posttest scores of the ELLM preschool children.](image)

**Discussion and Implications**

As a result of the *Hubs* project and the implementation of the ELLM initiative, community agencies worked together to improve the quality of early education for low-income children living in Jacksonville, Florida. Additionally, faith-based child care agencies, subsidized child care agencies, Head Start agencies, and the Duval County public school system supported the collaborative effort of the Implementation Team by working to implement and expand the ELLM initiative.

A major issue for further research concerns children whose pretest achievement scores are most likely to place them in the bottom quartile. All of the children in the study were preschool children from low-income neighborhoods and were considered at-risk. Research findings have documented significant school readiness differences among children from low-income neighborhoods and their more advantaged peers. Studies also have confirmed that if children start school behind, they are likely to remain behind. Research studies must continue to test effective classroom strategies that reduce the gap that exists prior to entrance into kindergarten.
The following ELLM goals were accomplished.

- Improved literacy achievement in ELLM classrooms.
- Increased use of research-based instructional strategies.
- Improved alphabet letter recognition in ELLM classrooms.
- Expansion of the ELLM initiative from Duval County to six additional counties in the state of Florida. ELLM expanded to over 400 classrooms throughout the state of Florida.

As evidence grows regarding the success of early literacy curriculum programs, it is recommended that research-based early literacy curriculum programs such as the ELLM project be implemented throughout 3- and 4-year-old early care classrooms. Infrastructures need to be developed to strengthen the literacy base of young learners in early learning centers throughout the country. Improving literacy skills of at-risk children holds promise to decrease the literacy gap between children from low-income neighborhoods and their more affluent peers.

Beyond the research, the impact of the Hubs project spread to the College of Education and Human Services, where knowledge acquired during the field study was used to develop the College’s stand-alone prekindergarten/primary program. Ties to the field were also strengthened in ways that spawned new collaborative efforts jointly developed by local school readiness partners and the Florida Institute of Education. FIE also worked with the local coalition to use child outcome results to identify areas of need and strengthen instructional practices. Realizing the value of having a research partner, the local coalition asked FIE to continue to serve in that role for future collaboration.
References


## First Coast Regional Readiness Hub Partnership Members

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Chapter 5

Guided Reading Pilot Program -
Emergent Reading Program for
Bilingual Preschool Population:
Florida International University and
the Early Learning Coalition of Miami-
Dade and Monroe County

Miami-Dade Regional Readiness Hub

Charles Bleiker, Walkiria Oliver, and Chan-Ho Chae

A publication of the Florida Institute of Education at the University of North Florida. The opinions or conclusions expressed herein do not necessarily reflect those of the Florida Institute of Education or the University of North Florida.
This study investigated whether a guided reading program implemented by volunteers made a significant impact on a group of bilingual, 4-year-old children’s pre-reading skills. Pre- and posttest scores were significantly different as measured by an assessment of the following phonological sensitivity constructs: Rhyme Awareness, Syllable Awareness, Print Awareness/Concepts of Books, Print Awareness/Concepts of Directionality, and Listening Comprehension/Prediction. The study consisted of a student-volunteer implemented dialogic reading program developed by the investigators and conducted in 10 Miami-Dade child care centers. It included 17 classrooms where the teachers were predominantly Spanish-speaking. The sample size consisted of 130 bilingual children with a strong preference for Spanish. A two-way repeated-measures ANOVA was conducted to test the improvement of individual phonological sensitivity skills and overall total scores. The within subjects factors were phonological sensitivity with the four different skills and test-times with the two test-times (pre- and posttest).

Statistical significance across phonological sensitivity skills (with and without test-time) suggested that the intervention program was successful in raising children’s ability along a number of important pre-reading factors. As a follow-up test for the significant interaction, four paired-samples t-tests were conducted to examine the differences between pre-and posttest scores in individual phonological sensitivity skills. Again, the scores of the children significantly increased between the time of pretest and posttest across the four individual measures. The results supported recent research suggesting that overall, with the exception of oral proficiency skills, the profiles of English as a First Language (EL1) and English as a Second Language (ESL) efficiency subgroups (e.g., poor decoders, low efficiency, and high efficiency) are surprisingly similar (Geva & Zadeh, 2006).
During the first several years of state block grants, Miami-Dade County subsidized child care fell under the jurisdiction of the County government. The County’s job was basically one of administration and monitoring rather than educational improvement. In 1999, the State of Florida passed the School Readiness Act to create independent coalitions throughout the state. These School Readiness Coalitions were given the charge of improving the quality of child care in the system of subsidized child care by competitively bidding out services and by linking services and providers in a more efficient system.

The Hubs Pilot initiative was born as a result of these fundamental changes to child care. The primary goal of the Hubs initiative was to create and field-test the effectiveness of a collaborative school readiness support structure. The purpose was to help local school readiness coalitions and frontline practitioners develop the capabilities needed to help at-risk children acquire the knowledge and skills to succeed in school, with particular attention to early literacy.

Early in the 5-year grant, the Hubs Pilot assisted the ongoing efforts of Florida International University (FIU) to improve the quality of early childhood education in the Miami-Dade area. During this time, FIU partnered with the Early Learning Coalition of Miami-Dade and Monroe County (ELCM-D/M). The Miami-Dade Regional Readiness Hub (M-DRRH) helped attract a number of early literacy grants; principal among them was one that compared the effectiveness of three known literacy programs to a control group—answering the question of whether they were effective in raising short-, medium-, or long-term achievement. In addition, the M-DRRH developed and supported the distribution of a professional development survey intended as a needs assessment of the population of early childhood teachers. The results of the survey helped the ELCM-D/M create a program designed to enhance the professional development of teachers. They also led FIU to create an innovative alternative educational program for early childhood teachers that was part-time and community-based.

During the last 2 years, the Hubs Pilot grant moved away from information-gathering and community-building and into the arena of more direct interventions. For Miami-Dade, this meant starting with the M-DRRH Hub’s Web site for the early childhood community of South Florida. The intent of the electronic site was to gather a virtual community of educators of young children and to showcase the work being done in South Florida in the area of school readiness. This Web site continues today, highlighting the work of centers and teachers and communicating to the early childhood community opportunities for professional development.

In the last 2 years of the Hubs Pilot grant, FIU began a fruitful collaboration with a number of frontline child care centers (see Appendix) in a Guided Reading Research Pilot Program: Emergent Reading Program for Bilingual Population. This program was developed in the summer of 2005 to meet the early literacy needs of some of Miami’s most vulnerable children. The program highlighted the use of volunteers as readers for young children in preschools. Its main
objective was to put highly motivated, trained volunteers into Spanish-only classrooms and have them read to children in English. High-quality children’s literature was selected to accompany the curriculum. The rationale for the program was based on evidence that children who are read to frequently are almost twice as likely to exhibit increased emerging literacy skills—42% versus 24% (Nord, Lennon, Liu, & Chandler, 1999). The program included dialogic reading plus direct teaching of phonological sensitivity and phonological awareness. For the purpose of the study, the term phonological sensitivity skills was used to capture these various skills.

**Statement of the Problem**

Much has been discussed about the effects of shared-reading and other literacy activities on preschoolers from different socioeconomic backgrounds. But what if those children do not have one single book in the home or a single significant adult with enough time to read them a bedtime story? What can we, as a community, do for them? Ideally, schools, community programs, and universities could play a critical role.

Arguably, willing parents may not be able to engage in literacy activities in English with their young children due to language and literacy barriers—although if literate, they can engage in literacy activities in their native language. However, many qualified college students do have enough time on their hands and need to complete community hours and practicum work before graduation. Ideally, these students could volunteer some of their free time to assist subsidized child care centers with their language arts programs. The M-DRR Hub’s Guided Reading Program was designed precisely around this premise.

The purpose of the Guided Reading Research Pilot Program was: a) to reinforce the emergent literacy skills of a sample of 4-year-old children enrolled in subsidized child care by implementing a dialogic reading intervention; b) to provide direct-instruction of phonological sensitivity skills using text embedded in stories, and; c) to offer practice in language skills in English. This may be the first exposure to English for some children, and thus very beneficial to their progress upon entering kindergarten in the fall. A secondary objective was for the volunteers to read high-quality children’s books to preschoolers and engage them in the stories read. The children received a total of 16 to 24+ extra hours of reading as a result of the Hubs-supported program. More than 90 children’s books were purchased for this purpose.

Given that many of the teachers spoke English as a second language, one of the problems the researchers expected to encounter was the degree of bilingualism of this particular population of preschoolers and their ability to follow the program objectives. Thus, the study investigated whether preschool children’s pretest and posttest scores were significantly different as a result of their participation in the Guided Reading Pilot Program as measured by assessment in the following phonological sensitivity constructs: Rhyme Awareness, Syllable Awareness, Print
Today, school districts in the United States are reporting dramatic increases in the number of English as a Second Language (ESL) minority students—especially in economically disadvantaged areas. The Miami-Dade County Public School District is the fourth largest in the country (approximately 200 elementary schools). In Miami-Dade County, according to the 2000 United States Census, 57.3% of the population is of Hispanic/Latino descent and 67.9% of those reported speaking a language other than English in the home.

Given that approximately 43% of Miami-Dade County's children speak Spanish as a primary language, many children entering kindergarten are enrolled in their respective English to Speakers of Other Languages (ESOL) levels until their English language skills are considered adequate. Winsler and Hartman (2006) noted that children entering school with a primary language other than English are at risk of not developing successful literacy skills in English, especially if they do not receive support for enhancing phonological awareness in English. In Miami-Dade, this risk may be enhanced by the intervening variable of early childhood teachers who primarily speak Spanish in their subsidized early child care settings.

Many of the children who receive subsidized child care services in preschool (such as the participants in this study) will also attend some of the lowest-performing elementary schools in Miami-Dade County. Children who attend Head Start and subsidized prekindergarten programs are typically the same children who attend the poorest quality public schools (Lee & Loeb, 1995). It stands to reason that although public schools, in theory, are designed to be equally effective for all children, in practice some sociocultural groups benefit more than others—especially if they do not receive effective interventions.

A relatively easy method to help at-risk children with early literacy is reading aloud. But, given Miami-Dade's scenario, in what language should the stories be read? And who should read them? Reading aloud is an enjoyable, productive activity that lends itself to reinforcing language skills in children, regardless of sociocultural reference group. Whereas shared-reading is a common activity in most child care settings, these reading sessions generally entail having one teacher read to the entire classroom, which, of course, defeats the true purpose of shared-reading due to the infrequent interaction between the teacher and individual children.

The small-group format is much more effective, but it calls for additional work and structuring of teacher time, as well as adding an aide for part of the day. Another possibility is involving community volunteers as story-readers to the children. This procedure was explored and shown
to be effective (Anthony, Lonigan, Dyer, Hooc, & Bloomfield, 1996; Lonigan, Anthony, Dyer, & Collins, 1995). This method not only brings in good language models, but also builds support from the community. Volunteer groups can essentially adopt a center and be an added support for the children. Readers trained in the nuances of dialogic reading can be much more effective because they bring the skills of a teacher to the task. They know how to connect the stories to the children’s lives, what questions to ask, and what parts of the language to emphasize.

**Dialogic Reading**

Whitehurst and Lonigan (1998) have demonstrated in several studies that a form of shared-reading, called *dialogic reading*, can produce considerable changes in the language skills of young children. Dialogic reading is different from shared-reading in several ways. For one, dialogic reading changes the way in which adults typically read books to children; central to these changes is a shift in roles. In more traditional shared-reading activities, the adult reads stories while the child passively listens. In dialogic reading, the child learns to become an active participant in the process, as he/she slowly emerges as the storyteller. The goal is for the adult to assume the role of the active listener, asking questions, adding information, and prompting the child to increase the sophistication of descriptions of the material in the picture book. It is the child, however, who determines what to talk about. Even peer modeling may encourage a child’s responses to the books through praise and repetition.

In studies conducted with children from middle- to upper-income families, dialogic reading has produced greater gains in children's language skills than traditional storybook reading (Arnold, Lonigan, Whitehurst, & Epstein, 1994; Whitehurst, Falco, et al., 1988). The effects of this reading program have also been evaluated with groups of children from low-income families with similar positive results. Valdez-Menchaca and Whitehurst (1992) have examined the effects of dialogic reading with children attending public child care centers in Mexico. Children exposed to one-on-one dialogic reading for 6 weeks experienced significantly more growth in oral language skills as measured by standardized measures and spontaneous verbalizations. Whitehurst, Arnold, et al. (1994) conducted a more ecologically valid test of dialogic reading with low-income children comparing a control group (e.g., only teachers read to children) with two types of experimental groups: a) teachers read to children, and b) parents read to children. At posttest, both intervention groups experienced large and significant increases in oral language skills compared to the control group, and these gains were maintained at the 6-month follow-up test.

**Phonological Processing Skills**

A few studies link phonological sensitivity, a broad category of phonological processing skills, and/or phonological awareness skills with preschool-age children; however, no consensus exists within the limited body of literature. Stanovich (1992) addressed the importance of defining the appropriate terminology to describe the various aspects of phonological ability long ago. *Phonological awareness*, the term that is currently more commonly associated with reading skills,
is used to refer to the ability to manipulate words at the level of phonemes (e.g., including onset/rhymes and syllables). According to Stanovich, *phonological sensitivity* is a better term for the more global set of processing skills that entail sensitivity to speech sounds.

The researchers of the present study opted to use the term *phonological sensitivity* as a broad hierarchy of sensitivity varying along levels of linguistic complexity (Stanovich, 1992), primarily because the subjects were ESL preschoolers from low-income families—young children who were primarily Spanish-speaking.

**Methodology**

**Student Volunteers**

FIU undergraduates in early childhood education, special education, and psychology volunteered to implement the Guided Reading Program objectives. As such, they formed an integral part of the research team. In addition to providing direct service to the children, the students were trained in a train-the-trainer model of instruction. The college students participating in the program were provided a small stipend for their participation in the training.

**Early Childhood Teachers**

The program involved 17 early childhood teachers and their classrooms. These teachers typically had the state-mandated 40 hours of training in early childhood education. Some had more formal Child Development Associate (CDA) and Associate of Arts (AA) training. None had a bachelor’s degree or higher in early childhood education. The primary language of instruction in all 17 classrooms was Spanish, though some English was spoken as well.

**Sample**

The participants consisted of 130 predominantly Spanish-speaking 4-year-old children attending 10 subsidized child care centers in Miami-Dade County. The participants were recruited indirectly, through the respective preschools they attended. The specific eligibility criteria the children had to meet in order to participate in the program were a) enrollment in a pre-kindergarten 4-year-old classroom and, b) the age criteria: within the range of late 3-year-olds to young 5-year-olds (e.g., children 42 months of age or less were excluded from participating in the program because the activities were not developmentally appropriate for them).

The centers were located in the vicinity of the university, allowing for student-volunteers to have easy access. The university is located in an urban area with large numbers of Spanish-speaking residents, many of whom have recently come from Latin American countries. The neighborhoods contain modest houses and also high-density apartment buildings. Neighborhood child care centers are located in converted houses, churches, and even storefront offices.
**Procedure**

The program started during the week of June 27, 2005 with volunteers meeting at their assigned centers. Each individual preschool implemented the program for 8 weeks, terminating during the week of August 26, 2005. Individual reading times were arranged between each reader and the center director.

Volunteers conducted at least two sessions per week at their assigned centers for a minimum of 16 sessions. Each session ran between 45 minutes to 1 hour—although variation existed due to the children’s stamina and attention span. Volunteers were authorized to end their sessions before the 45 minutes in the event the children appeared to be tired, sick, or otherwise unable to focus on the task at hand.

The study was a quasi-experimental design in which differences between pretest and posttest scores were treated as an index of the effectiveness of the treatment condition—dialogic reading intervention combined with direct-instruction of phonological sensitivity skills using text embedded in stories.

Upon receipt of the classroom rosters from the preschools, a classroom assignment and roster list was created for each FIU volunteer, including the names of all students enrolled in the classroom. Approximately 2 days prior to start-up, the volunteers administered the pretest to every child on their rosters, often assisted by other volunteers or FIU assessment staff members.

For purposes of confidentiality, each preschool student was coded with a number. The children’s scores remained confidential and were not revealed to the child care center, the parents, or even to the statisticians who worked exclusively with data coded on the basis of student numbers. The scores were not to be used for screening, diagnostic, or instructional purposes.

**Instrument**

The test instrument itself is still in a preliminary stage of development, and will be revised for the follow-up to this study. The researchers developed two versions of an evaluation instrument (the *Guided Reading Assessment: Pretest*, and *Guided Reading Assessment: Posttest*) to test for several linguistic abilities associated with phonological sensitivity. Four tasks (some having dual functions) were used as the measures of phonological sensitivity and were administered to all the children who participated in the study. The specific items tested the following areas: Rhyme Awareness (starting with words embedded in text), Syllable Awareness, Print Awareness (e.g., Concepts of Book and Concepts of Directionality), and Listening Comprehension: Prediction (e.g., from read-aloud). Most of the tasks allowed one practice trial and a re-administration of the item or used the first item in a series of sub-categories as the practice trial. If the child gave an incorrect answer, the child received feedback and an explanation at the end of the response. If the child gave a correct answer, the child would receive feedback to that effect. The specific measures were as follows:
• Rhyme Awareness - The child was shown six word pairs from the text embedded in the story read by the volunteer. The child was asked to indicate if the words rhymed with a “thumbs-up” and if the words did not rhyme with a “thumbs-down.”

• Syllable Awareness - The volunteer identified one-syllable words and clapped once, then identified two-syllable words and clapped twice. This was done several times until the child appeared to understand the task.
  
  o First task: a list of simple one- or two-syllable words were read to the child and the child was asked to clap once or twice depending on how many syllables (parts) the word had, either “one part” or “two parts.”
  
  o Next task: the child was asked to look around the room and find examples of “one-part” words or “two-part” words.

• Print Awareness: Concepts of Book - The child was asked to hand the volunteer a storybook “so we can read it later.” Then the child was asked to identify the front cover, the back cover, the title, and the author of the story.

• Print Awareness: Concepts of Directionality - The child was asked to turn to a page in the book and identify the place where one starts reading; the child was then asked to indicate, by moving a finger along the words, which way to continue reading.

• Listening Comprehension: Prediction - The child was asked to look at the picture on the last page of a storybook previously read to him/her and the volunteer asked, “What do you think is going to happen next in this story?”

In view of the fact that the majority of the children in this study were English language-learners, the researchers considered Prediction to be a sub-category of Listening Comprehension because children’s ability to make any inferences on their own largely depended on their ability to, first, understand the story read to them.

Findings

Table 1 shows the means and standard deviations for phonological sensitivity test scores by individual skills and time. Differences between the pretest and posttest scores were calculated to determine the effects of the intervention. Scores increased across all skills, independent of each other, from the time of pretest to posttest.
Table 1
*Means and Standard Deviation for Phonological Sensitivity Test Scores by Individual Skills and Time (n = 130)*

<table>
<thead>
<tr>
<th></th>
<th>Rhyme</th>
<th>Syllable</th>
<th>LC: P</th>
<th>Print</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td></td>
<td>Std. Dev.</td>
<td>5.56</td>
<td>8.60</td>
<td>1.58</td>
<td>2.66</td>
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</tbody>
</table>

A two-way repeated-measures ANOVA was then conducted to test the improvement of individual phonological sensitivity skills and overall total scores. The within subjects factors were phonological sensitivity with four different skills (Rhyming Awareness, Syllable Awareness, Listening Comprehension: Prediction, Print Awareness) and test-times with two test-times (pre- and posttest).

The main effect of test-time and the interaction of phonological sensitivity and test-time were tested using the Wilks’s Lambda (Λ) criterion. Table 2 shows that the main effect of test-time was significant, Λ = .35, F(1,129) = 239.60, p<.01, and the interaction effect of phonological sensitivity and test-time was also significant, Λ = .41, F(3,127) = 60.38, p<.01. Statistical significance across phonological sensitivity skills (with and without test-time) supports the efficacy of the intervention program, even given the bilingual population.

Table 2
*The Results of Two-Way Repeated Measures ANOVA*

<table>
<thead>
<tr>
<th>Effect</th>
<th>Wilks’s Lambda</th>
<th>F</th>
<th>dfhyp</th>
<th>dferror</th>
<th>p</th>
<th>N2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skills x Time</td>
<td>0.41**</td>
<td>60.38</td>
<td>3</td>
<td>127</td>
<td>.000</td>
<td>.59</td>
</tr>
<tr>
<td>Skills</td>
<td>0.08**</td>
<td>485.26</td>
<td>3</td>
<td>127</td>
<td>.000</td>
<td>.92</td>
</tr>
<tr>
<td>Time</td>
<td>0.35**</td>
<td>239.60</td>
<td>1</td>
<td>129</td>
<td>.000</td>
<td>.65</td>
</tr>
</tbody>
</table>

*p<.01

As a follow-up test for a significant interaction effect, a simple main-effect test was conducted to evaluate for interaction comparisons. Selecting test-times as the horizontal axis variables and individual phonological skills as the separate line variables created the line graph in Figure 1. Syllable Awareness and Comprehension appear to have lower scores than Rhyme Awareness and Syllable Awareness, only because they have less number of items; that is also the reason why the researchers cannot make comparisons as to which measure shows the greatest improvement.
As a follow-up test for the significant interaction, four paired-samples $t$-tests were conducted to examine the differences between pre- and posttest scores in individual phonological sensitivity skills. Table 3 shows that all four pairs were significantly different between PrePA and PostPA, $t(131) = -10.79$, $p<.01$, between PreSA and PostSA, $t(129) = -7.88$, $p<.01$, between PreLC and PostLC, $t(131) = -4.81$, $p<.01$, and between PreRA and PostRA, $t(130) = -10.38$, $p<.01$. The children significantly increased their scores between testing periods across the four individual measures.

### Table 3

*The Simple Main Effects Analysis of Test Time Within Phonological Sensitivity Skills*

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>$T$</th>
<th>$Df$</th>
<th>$P$</th>
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<tr>
<td>Pretest/Posttest Within Rhyme Awareness</td>
<td>-3.05</td>
<td>3.25</td>
<td>-10.79**</td>
<td>131</td>
<td>.000</td>
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<tr>
<td>Pretest/Posttest Within Syllable Awareness</td>
<td>-1.08</td>
<td>1.56</td>
<td>-7.88**</td>
<td>129</td>
<td>.000</td>
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<tr>
<td>Pretest/Posttest Within Listening Comprehension</td>
<td>-0.37</td>
<td>.89</td>
<td>-4.81**</td>
<td>131</td>
<td>.000</td>
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<tr>
<td>Pretest/Posttest Within Print Awareness</td>
<td>2.59</td>
<td>2.85</td>
<td>-10.38**</td>
<td>130</td>
<td>.000</td>
</tr>
</tbody>
</table>

**$p<.01$**
The researchers were surprised by the strength of the results, especially in the area of rhyme awareness, because a) the preschoolers were asked to rhyme in a language other than their own (even though they learned to do it in Spanish as well), and b) they had never engaged in rhyming as a classroom learning activity, or in any other setting.

The data analysis indicated promising results for bilingual preschoolers, suggesting that these students may not be more disadvantaged than English-as-a-first-language (EL1) students when it comes to acquiring reading skills in English. Leafstedt and Gerber (2005) explored whether phonological processes showed cross-linguistic transfer in two groups of English-learners (ELs) enrolled in programs that differed by language of instruction. They also studied whether performance on Spanish and English phonological processing tasks predicted English decoding and reported that: a) phonological processes do, in fact, exhibit cross-linguistic transfer in young ELs, and b) phonological awareness is the only theoretical phonological processing construct significantly related to all English and Spanish reading tasks.

In addition, Geva and Zadeh (2006) examined the extent to which Grade 2 ESL students compared to EL1 students on word and text reading and explored the different underlying processes between groups. The following measures were significant predictors of word and text efficiency in the ESL group: oral language proficiency, phonological awareness, rapid automatized naming, and accurate word recognition. Overall, with the exception of oral proficiency skills, EL1 and ESL profiles of three efficiency subgroups (e.g., poor decoders, low efficiency, and high efficiency) were very similar. The idea that English language learners are not unduly handicapped when learning to read and write English is a significant finding. It supports the type of intervention proposed by this study: focused teaching of componential English literacy skills in a natural format. If relatively short-term guided reading interventions, conducted by lightly trained volunteers, can have a significant result on the pre-reading skills of English language learners in Miami, they can work wherever young children are struggling to master English.

The low cost and ease of implementation of this program give us hope that this type of intervention can grow and expand to wherever it is needed. The difference between this program and other reading programs (e.g., Reach Out and Read) is that volunteers are taught to focus on the specific aspects of reading that we know make the most difference down the line. Reading to children is important, but how you read to them is equally important.

**Anticipated and Unanticipated Outcomes**

An anticipated outcome of the study was that for the first time ever, the teachers witnessed the kinds of concepts and/or activities that the children would be asked to perform in kindergarten. Reportedly, this had the effect of motivating some of them to practice their English-language skills throughout the duration of the program.
At termination of the program only 130 children remained active from the 187 in the original sample. That is an attrition rate of 30.5%, and only 69.5% of the sample completed the program. Another unanticipated outcome was the significant increase in scores in rhyme awareness. Learning to rhyme in another language is very difficult, thus rhyming is not an activity generally practiced in Miami-Dade preschools unless they are participating in a language enrichment program. The fact that the children learned to recognize rhymes in such a short period of time was impressive.

Due to these promising findings, the researchers intend to conduct a follow-up study: a) to explore if the teachers continue practicing acquired skills, b) to upgrade the assessment instrument and use standardized measures alongside it for comparison, and c) to continue exploring the phonological processing skills of bilingual preschoolers.

**Limitations**

This study used a pretest/posttest design and had no control or comparison group. Evaluations without control or comparison groups are limited methodologically. The researchers could have used other classrooms of 4-year-olds from the pool of non-participating classrooms in the centers to form an equivalent control group for comparison. With limited resources this was not a priority.

In addition, centers and teachers were not randomly selected to participate from a larger group, but were directly approached because they met certain criteria (close to university; predominantly Spanish-speaking population). The items of the assessment instrument did not have equal weight throughout; therefore researchers could not compare among individual phonological skills, or determine which measures had improved more than the others—which would have been an interesting comparison given that not enough is known about the phonological processing skills that preschool English language-learners apply to English. The instrument, we felt, did do its job in identifying improvement over a range of early reading indicators, and it was easy enough for the volunteers to grasp with a short training. A more sensitive measure might have captured the gains better, but part of the aim of the study was to develop an intervention program with an easy-to-use assessment tool that still gave enough feedback. This is the tightrope that must be walked in order to balance the assessment and intervention needs of any program.

Miami-Dade is highly transient, but other factors that may account for the high attrition area: a) children without any language skills in English refusing to participate in the program, b) lack of receipt of proper documentation prohibiting volunteer from proceeding with assessments, and c) loss of a volunteer who had to be replaced midway through the program. These all have to be considered in any replication of the program.
Educators anxiously wait for the day when they finally have effective interventions that can help teachers in the classroom. Thus empowered, they can forge on and begin closing racial, cultural, and socioeconomic gaps in readiness and achievement. As for now, preschools lacking resources (e.g., books, equipment and materials, teachers with college and/or graduate degrees) need all the assistance they can get from the community, and local universities are one source of help.

The main aim of the program was to establish well-tested practices of story reading in high-risk centers using a readily available resource from universities: student volunteers. College students, by their very nature, are well-educated. Civic engagement is considered a virtue and a part of the overall educational experience.

The most significant outcome of this project is the fact that a high-quality guided reading program could be implemented relatively quickly and at low cost to an area of high need. If this can be done in our neighborhood, with a group of undergraduates, it could also be done by businesses, high schools, and clubs seeking to engage members in the early literacy of young children. It is not productive to blame the schools, or economics, or high-poverty parents for the low literacy achievement of children. We know that the problem exists. What we need to do is come up with effective solutions. The FIU Guided Reading Program developed by the Miami-Dade Regional Readiness Hub is one solution that can work.

When the Hubs Pilot was first implemented in 2001, the local early learning coalition was newly formed. The grant helped to organize the many disparate agencies and organizations working in the multi-disciplinary field of school readiness. Head Start, faith-based centers, the public schools, the county, and the university were just a few of the members of the original Hub task force that met monthly that first year to discuss what a community-based network for school readiness might look like. This group was instrumental in helping the early learning coalition set policy. As the Coalition matured, it gradually took over most of these community-building tasks. The Hubs grant then became an important member of the community. At the same time the role of community convener was being handled more by the Coalition, the Hubs grant supported two projects important for raising the level of quality in the centers: (1) a professional development survey of providers, and (2) the development of a Web site for early childhood professionals. The professional development survey of the providers and the teachers eventually led to a community-wide push for professional development, Quality Counts. It focuses specifically on professionalizing the early childhood workforce in Miami-Dade County by providing tuition, workshops, and advising. The Miami-Dade professional development Web site, in its early stages of development, was designed to create a virtual community for early childhood professionals. It includes a job board, a calendar of events, a large group of links, and sections highlighting research and practice. With further funding it should continue to grow and become a comprehensive tool for educating and communicating with teachers across the county.
References


### Appendix

**Miami-Dade Regional Readiness Hub Partnership Members**

<table>
<thead>
<tr>
<th>Affiliation</th>
<th>Person's Name</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Representative(s)</td>
<td>Charles Bleiker, PhD</td>
<td>Florida International University and Principal Investigator of Miami-Dade Regional Readiness Hub</td>
</tr>
<tr>
<td>University Representative(s)</td>
<td>Walkiria Oliver, MS</td>
<td>Florida International University and Co-Principal Investigator of Miami-Dade Regional Readiness Hub</td>
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<tr>
<td>Subsidized Child Care Representative(s)</td>
<td>Esther Mir, Owner-Director</td>
<td>Academic Pre-School Learning Center</td>
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<td>Angel and Amanda Silva, Owners</td>
<td>Fantasyland Day Care</td>
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<td>Lucia Santana, Assistant</td>
<td>First Infant University</td>
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<tr>
<td>Subsidized Child Care Representative(s)</td>
<td>Raiza Gomez, Assistant</td>
<td>Fuzzy’s Day Care</td>
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<td>Isabel Perez, Owner-Director</td>
<td>Just Kids Center (Main)</td>
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<td>Just Kids Center (Westchester)</td>
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<td>Kids Adventure Learning Center</td>
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<td>Subsidized Child Care Representative(s)</td>
<td>Nelly Garrido, Owner-Director</td>
<td>Kids Rainbow Learning Center</td>
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<td>Subsidized Child Care Representative(s)</td>
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<td>Mini Me I and Mini Me II</td>
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</tbody>
</table>
Chapter 6

Parent Involvement in Children’s Development of Early Literacy Skills: Florida State University and the Early Learning Coalition of the Big Bend Region

Central Panhandle Regional Readiness Hub

Ronald L. Mullis, Ann K. Mullis, Thomas A. Cornille, and Chris Duggan
The purpose of this project was to examine the effects of an intervention, designed to engage parents in literacy activities with their preschool children, on the early literacy and knowledge outcomes of those children. Six child care centers served as intervention sites, and two child care centers served as comparison sites. A total of 36 children and 12 parents participated in the evaluation of the intervention. Parents completed questionnaires on early literacy activities with their children over a 17-month period. Children were administered the Peabody Picture Vocabulary Test, the Boehm Test of Basic Concepts, a print awareness test, and a receptive vocabulary test. Pre- and posttest data collected from parents and children who participated in the intervention project provided some evidence that children’s early literacy competencies increased over time. Limitations and suggestions for future research on parenting and early literacy development of their children are suggested.
Introduction

The primary purpose of the Central Panhandle Regional Readiness Hub was to provide the local early learning coalition with greater access to the scientific research and evidenced-based practice needed to improve quality of regional child care programs, focusing on the role of parents in improving child outcomes related to early literacy skill development. This research-focused partnership between the Early Learning Coalition of the Big Bend Region and Florida State University was initiated between 2002 and 2003 when a pilot study of parent involvement and early literacy skill development in young children was completed. Findings from this pilot study indicated that when parents were provided with early literacy activities to use with their preschool children over a period of 8 weeks, children demonstrated improvements in their performance on standardized measures of early literacy, especially print awareness.

This pilot study led to the development of a proposal by the early learning coalition to the U. S. Department of Education for funding through the Early Learning Opportunity Act (ELOA) to carry out a more intense intervention with parents to facilitate the early literacy skills of young children served in low-income child care programs in the region. Consequently, this report includes findings from the coalition’s project associated with this grant, entitled “Parent/Teacher Connection.” In addition, evaluation findings from comparison child care centers in Leon County not participating in the coalition’s project are also presented in this report to identify and highlight findings from the intervention project.

Statement of the Problem

The purpose of this research project was to examine the relationship between parent involvement and early literacy skills in young children. Parents have the ability to provide young children with direction and consistency to support the development of early literacy skills. Whereas some parents spend a great deal of time preparing their young child for literacy acquisition, many parents do not feel that they have the capacity to teach their child literacy skills.

According to the National Center for Early Development & Learning (2002), it would be expected that the parent and teacher relationship can provide young children with support for continued learning. When teachers provide parents with learning materials and activities to use with their children, teachers and parents can have continuous positive interactions that benefit both the children and the parents. Consequently, the following research questions were established for this study:

1. What are the early literacy activities reported by parents of preschool children and how do these activities change over time?

2. What are the beliefs of parents about their role in the preparation of their preschool children for reading in school and how do these beliefs change over time?
3. What are the child outcomes associated with early literacy skills and how do these skills change with parent intervention over time?

**Parents and Early Literacy**

Previous research studies documented reasons for a lack of literacy instruction from parents to their young child, including: (a) low maternal education level (Goelman, 1988); (b) fear that their child will become more knowledgeable than the parent, and (c) a belief that literacy development is not important in the home environment (Anderson, Cronin, & Fagan, 1998).

One factor that can negatively affect the development of early literacy skills among children is whether or not their parents have low literacy skills themselves (Zeece, 2005). Some parents know that reading to their children is an important task, but without experience in this task, they may not be able to demonstrate to their child how to hold a book, how to conduct a read-aloud time, or how to care for books (Zeece, 2005).

Anderson et al. (1998) initiated a family literacy program with working-class families and found that differing values of parents affected children’s literacy learning differentially. Although parents often realized the importance of providing a literacy-rich environment for their children, other factors were found to inhibit the promotion of that environment in the home. For instance, the parents were concerned about the mess of the activities and would tidy things up so that literacy tools were put in places unreachable by children. Another concern brought up by the parents in the program was related to gender. Through their reports, parents expressed the disapproval received from others who did not feel the literacy activities were appropriate based on their child’s gender. Sonnenschein, Baker, Serpell, and Schmidt (2000) also concluded that preschool children’s literacy development is influenced by their parents’ beliefs and attitudes towards learning and school activities.

In addition to parental values, the beliefs and knowledge parents have about literacy may also influence the child’s home environment (Sonnenschein et al., 2000). For example, if the parents view reading as enjoyable, they are likely to read more often and the child will have a greater desire to engage in reading activities. Parents who start reading to children at an early age can evoke an interest in the child towards listening to stories and later reading (Bus, 2001).

Lynch (2002) extended the research on the relationship among parents’ reading beliefs and children’s self-perceptions of themselves as readers. The researcher wanted to know if parents’ beliefs in their own ability could improve children’s reading achievement. A questionnaire was given to parents that measured their self-efficacy beliefs of being able to improve their children’s reading achievement. Researchers found a positive relationship between mothers’ self-efficacy
beliefs and children's self-concept. Children who had a higher self-concept had a stronger perception of their own reading ability. Therefore, mothers with stronger self-efficacy believed that they could improve their child's reading ability. This could impact their child's reading achievement by providing their child with a higher self-concept.

Additional evidence provides further clarification on this topic. Metsala (1996) found that families coming from a low-income background had few children who participated in print-related activities, and the activities in which they participated were more structured, involving flashcards and reciting the alphabet. Children from middle-income families, however, participated in activities indicating literacy as a source of entertainment. These activities included joint storybook reading and independent interactions with print. The findings suggest that parents from lower socioeconomic backgrounds may view literacy development as a task, whereas parents with a middle-income background view literacy activities as entertainment.

Intervention Components of Early Literacy

Early literacy skills include an awareness of print and sensitivity to the sounds of language (Sonnenschein & Munsterman, 2002). Anthony et al. (2002) assessed print knowledge in preschool children using several measures. The results indicated that print knowledge was associated with phonological sensitivity in preschool children. Phonological sensitivity refers to any type of skill associated with linguistics (rhymes, phonemes, words, and syllables).

Sonnenschein and Munsterman (2002) examined orientation towards print through storybook-reading interactions in preschool children. Parent-child dyads were videotaped reading a story while researchers characterized their interactions. Parents were then asked how frequently their child read books. In addition, children were taped participating in emergent literacy assessments that included orientation towards print measures. The print measures included word recognition in environmental context, letter recognition, knowledge of functions of print, and concepts about print. The results showed that children who were read to frequently had a higher orientation towards print.

Preschool children develop two types of vocabulary, receptive and expressive. Receptive vocabulary is children's comprehension of spoken words. Expressive vocabulary is being able to produce these words (Senechal & LeFevre, 2001). Senechal and LeFevre reviewed studies involving vocabulary development in young children. They suggested that adults read to their child while encouraging the child to label pictures and give examples of other situations where that word could be used.

To understand the meaning of a word, children do not actually have to be able to read. Instead, they can be familiar with different words and letters. Word learning begins with affective development (Bloom, 1998). Children begin sharing emotional expressions with caregivers and then place words to those emotional expressions. After this process, vocabulary expands to show
relationships between objects. This includes words that pertain to roles, relationships, actions, or events. Finally, a dramatic increase in the capacity of a preschool child to learn words makes it an opportune time to provide preschool children with an intervention that includes activities to increase their vocabulary.

Crain-Thoreson, Dahlin, and Powell (2001) reviewed studies on the effects of storybook reading on young children. They summarized that an interactive style of reading by parents and adults can benefit children’s vocabulary development. Whitehurst and Lonigan (1998) referred to this interactive style during story reading as “dialogic reading.” In dialogic reading, the child responds to the book through questions that are asked by the adult. The adult takes the role of a listener and encourages the child through repetition and further questions about the story.

In an intervention promoting dialogic reading in the school and home, preschool children were engaged in picture book reading with teachers and parents (Whitehurst, Arnold, Epstein, & Angell, 1994). In the study, children were randomly assigned to one of three conditions. This included receiving dialogic reading at the home and school, only at the school, and a control condition where children were engaged in play activities while the other children participated in dialogic reading. The results showed that both parents and teachers enhanced language development of preschoolers from low-income families in 6 weeks, the length of the intervention (Whitehurst et al., 1994). The children in the school plus home condition performed better than children who received dialogic reading only in the school and children from the control group.

The above studies provided empirical support that parents can positively influence their preschool child’s literacy development by the environment they create for their child, their self-efficacy beliefs, their attitudes towards literacy as entertainment, and through their interactive involvement with their child.

Methodology

Participating Centers

Preschool children from six child care centers (intervention) and two comparison centers (control) in Leon and Gadsden counties of Florida were included in this study. The intervention project included 36 children and was designed to facilitate parent involvement in their children’s early literacy skill development. The intervention component involved working with parents around specific early literacy skills and the importance of these skills for young children as they learn to read and move on to the public schools. The two comparison centers in the same counties had 19 children and were not involved in the intervention. These control centers were used to compare changes in children’s scores over a 17-month period with children in the intervention centers.
The Florida State University Research and Evaluation Team completed pre- and posttests of parental early literacy behaviors and child outcomes over the course of the 17-month project for selected intervention centers. Pre- and posttests were also administered to comparison centers.

**Measures**

To fully access and translate the above reference research into practical and easy-to-use tools, measures were developed or selected from standardized measures used widely with young children to access early literacy competencies. In addition, assessment tools aimed at parents and their assessments of parental practice and beliefs about the role of parents in literacy development were used. Quality measures of child outcomes were seen as critical indicators of parental contributions in maintaining and enhancing early literacy skills of children addressed by teachers in child care programs. The following child and parent measures were used in this study for both intervention and comparison centers in North Florida.

**Peabody Picture Vocabulary Test**

The Peabody Picture Vocabulary Test (PPVT-R; Dunn & Dunn, 1981), examined receptive vocabulary in a child. This test established a basal line—where the child's vocabulary understanding begins—and extended to the ceiling, the highest level of receptive vocabulary knowledge attained thus far.

Scores for the PPVT-R were obtained by subtracting the errors from the total ceiling score. A sample of 1,849 individuals participated in a study examining the reliability and validity of the PPVT-R. The median reliability coefficient for Form L of the PPVT-R was .81. The median validity coefficient of the PPVT-R was .70. This test is the preferred assessment of looking at language and vocabulary in young children (Purcell-Gates, 2001). Children from the intervention and comparison centers received the PPVT-R as a part of the pre- and post-assessments.

**Boehm Test of Basic Concepts for Preschoolers**

The Boehm Test of Basic Concepts for Preschoolers (Boehm-3 Preschool; Boehm, 2001), measured basic relational concepts in preschool children. The basic concepts measured included position, size, direction, and classification. This is a 52-item assessment that was given to the child in one session of approximately 20 minutes.

Scores for the Boehm-3 Preschool were obtained by adding the number of correct responses to each test item. To measure reliability and validity, the Boehm-3 Preschool was administered twice in intervals from 2 to 21 days to 98 children. Test-retest reliability for the Boehm-3 Preschool was calculated with the Pearson correlation coefficients. Reliability ranged from .90 to .94. Validity was also measured using the Pearson correlation coefficients. The Boehm-3 Preschool was administered in intervals of 2 to 21 day to a sample of 59 children with a validity score of .84.
Children from the intervention and comparison centers received the Boehm-3 Preschool as part of the pre- and posttest assessments.

**Print Awareness Subtest**

The Print Awareness subtest from the Preschool Comprehensive Test of Phonological and Print Processing (Lonigan, Wagner, Torgesen, & Rashotte, 2002) measured print concepts, letter discrimination, word discrimination, letter-name identification, and letter-sound identification. This 36-item test was given to the child in one session. If the child provided the correct response to the question, she was given a point, and if she did not provide the correct response, the child did not receive a point for the question. The correct responses were added up to reach the child’s score. For the Print Awareness subtest, a mean score of 19.71 with a standard deviation of 9.80 for 4-year-olds was attained, and a mean score of 23.61 with a standard deviation of 9.93 for 5-year-olds was attained.

**Receptive Vocabulary Subtest**

The Receptive Vocabulary subtest from the Preschool Comprehensive Test of Phonological and Print Processing (Lonigan et al., 2002) measured children’s knowledge of words. The child was shown a page with pictures and asked to point to the picture of the word given. A total of 40 words was included in the assessment. These were words children will most likely encounter during reading instruction. The Receptive Vocabulary subtest was given in one session of approximately 10-15 minutes.

**Parent Survey**

The parent survey included 37 questions divided into three sections: 1) Parents' Self-Reported Home Literacy Experiences, 2) Parents' Beliefs about Children's Participation in Book Reading, and 3) Parents' Perceptions of Their Children's Readiness to Learn the Beginnings of Reading.

*Parents' Self-Reported Home Literacy Experiences.* The first section measured at-home literacy activities. Questions included: (1) number of books in the home, (2) how often the parent read to the child, (3) how often the child asked the parent to read to him/her, (4) child's enjoyment of being read to, (5) how often child looked at books himself/herself, (6) how frequently the parent went to the library, (7) how often the parent read herself, and (8) to what extent parent reported enjoyment in reading.

*Parents' Beliefs about Children's Participation in Book Reading (passive vs. active parent involvement).* This measure assessed the views of parents about reading to young children and the approaches they utilized in the process. This second section of the parent survey was originally developed by Bojczyk (2005) as video vignettes, but was modified for use in this study as a paper and pencil measure. The modification included dropping the video clips that corresponded to the 14 either/or statements about parental beliefs of the importance of reading.
to preschool children. Video clips were dropped to reduce the amount of time for parents to participate in the survey and because the authors believed that the videos were not needed to clarify the statements for parents.

**Parents’ Perceptions of Their Children’s Readiness to Learn the Beginnings of Reading.** The third section of the parent survey was a Likert-like scale that parents rated (strongly disagree to strongly agree) on whether they believed that their child was ready to learn the beginnings of reading. These statements included: (1) my child is ready to learn how to use books, (2) my child is ready to learn from reading a book with a parent, (3) my child is ready to learn the letters of the alphabet, (4) my child is ready to learn about sounds that letters make, and (5) my child is ready to learn how to read.

### Findings

**Parent Survey**

When examining the results over time 1 to time 2 of the intervention centers, the small number of parents ($n = 12$) who responded to questions regarding home literacy experiences (Section 1) demonstrated some positive changes. These changes included the number of books in the home (58% increase), how often they read to their child (25% increase), child asked parent to read to him/her (25% increase), child expressed greater enjoyment in being read to (8% increase), child expressed an interest in looking at books (42% increase), parent reported going to the library (17% increase), parent reported reading herself (8% increase), and parent reported enjoyment of reading (17% increase).

When examining results from the parents in the intervention centers on their beliefs about their roles (passive or active) in preparing their child to read (Section 2), parental beliefs showed that parents were generally positive about their role in the literacy development of their children. Again, only 12 parents reported their beliefs over two time periods. Of these participating parents, there was a 33% increase (from the beginning to the end of the intervention) in a positive reaction to the importance of their active involvement in helping their children learn to read.

In the third section of the survey, parents were asked five questions about their beliefs regarding their children’s readiness to learn the beginnings of reading. Change scores for these five statements included: my child is ready to learn letters of the alphabet (8% increase), my child is ready to learn about the sounds that letters make (17% increase), and my child is ready to learn how to read (33% increase). Despite the positive changes for the three statements noted above, two statements asking parents if their child was ready to learn how to use books and if he/she was ready to learn from reading books with a parent showed no increase in frequency over time 1 to time 2. Moreover, 75% of parents showed no change at all for these two statements, and approximately 20% showed a decline in their beliefs about these statements.
Child Outcomes

Child outcome measures revealed the following changes in pre- and posttest scores during the intervention ($n = 36$). Positive changes were found for the PPVT-R scores (58% increase), Boehm-3 Preschool (84% increase), Print Awareness (94% increase), and Receptive Vocabulary (84% increase). Thirty-six percent of participating children showed a decline in scores on the PPVT-R, 13% declined in the Boehm-3 Preschool, and 11% declined in the Receptive Vocabulary scores. None of the children showed a decline in scores on the Print Awareness measure.

The two comparison child care centers examined the same child outcome measures noted above. These pre- and posttest scores were used to compare the results noted above for the children in the intervention. Comparison children ($n = 19$) were similar to intervention children for the PPVT-R. Fifty-eight percent showed an increase in scores, whereas 42% showed a decline in scores from pre- to posttest. Thirty-three percent of the comparison sample showed an increase in scores for the Boehm-3 Preschool from time 1 to time 2, and 57% showed a decline in scores on this measure. Ninety-five percent of comparison children showed an increase in scores on Print Awareness and a 70% increase on Receptive Vocabulary. There was only a slight decline for 5% to 10% of the comparison sample in Print Awareness and Receptive Vocabulary scores.

Discussion and Implications

Anticipated and Unanticipated Outcomes

Evaluation data collected from parents and children who participated in the parent intervention project provided some evidence that children's early literacy competencies increased over the 17-month span of the project. Given the low involvement of children in the testing, these findings must be interpreted cautiously. Parent data were less compelling in demonstrating change because of low participation rates among the parents across the intervention and comparison child care centers. Greater change scores were anticipated for both parents and children but can be best explained by the low participation and short intervention time for both parents and children.

Based on significant differences, examination of parents' beliefs about children's participation in book reading (active versus passive) revealed no changes from time 1 to time 2. In addition, parents did not change in their beliefs as to whether their children were ready to learn how to use books, or whether their children were ready to learn from reading a book with a parent from time 1 to time 2. Similarly, parent's beliefs did not change concerning whether their children were ready to learn the letters of the alphabet, ready to learn sounds that letters make, or whether their children were ready to learn how to read from time 1 to time 2. As with the results around early literacy activities of parents with children, these results must be interpreted with caution.
and, consequently, need to be researched further in the future. Perhaps longer intervention periods might influence changes more positively.

Children’s outcome measures revealed that scores on the PPVT-R and the Boehm-3 Preschool increased from time 1 to time 2. The results indicated an increase in scores on the Print Awareness and the Receptive Vocabulary measure from time 1 to time 2, but because these two measures are not standardized, they may not reflect changes in scores based on the intervention but merely reflect the child’s maturation with age. The absence of differences in scores between the intervention and comparison samples may best be explained by the demographic characteristics of the samples. More middle-income families were served by the comparison centers, and this may help explain our results. More definitive research in the future could help to clarify child outcomes due to parent involvement intervention when greater demographic controls are in place.

**Challenges and Opportunities**

Teacher and parent communication around early literacy remains an important topic of interest for the future. Bridging this contextual gap for a clearer picture of children’s early literacy development will help clarify important factors that contribute to our understanding of this issue. Parent assessments remain a challenge for future research on this topic; more standardized measures for parents may help alleviate this problem. In addition, most parents in this study were low-income, and this reflected the high demands on their time and energies as participants in the study. Future efforts might consider payment to parents for their involvement in such interventions given the amount of time expected of them to participate in structured activities.

Evaluation of parent intervention programs requires that evaluation of the intervention be part of the planning at its earlier stages. As evaluators of this intervention, the researchers were blind to the specifics of the intervention. Having evaluators involved in the intervention strategies early in planning may be beneficial in helping ensure consistency of implementation and follow-through of activities. Moreover, parents might benefit from having coaches who spend one-on-one time with them in the specifics of positive interactions between parents and their children around developmentally appropriate early literacy activities.

Parents reported minimal positive change in their perceptions of early literacy activities over the length of the intervention. Because of the low involvement of parents coupled with the short span between surveys of parents, it is not surprising that parents would change so little in their reported frequencies of early literacy activities with their children. In fact, it was reassuring that positive changes existed among this small group of parents.

Examination of parent’s beliefs reflected the same trends noted above. Thirty-three percent of participating parents did show an increase in their views that parents play an active role in preparing their child to read. Again, this is reassuring in that it suggests that some elements of the intervention may have had some positive influence on parents’ beliefs about their importance in
the early literacy development of their children. At this stage of our research, we can only speculate that parents can be instrumental and effective participants; without further study, better data, and more controlled and informed activity interventions, no clear conclusions can be drawn.

As a result of this project and our subsequent cooperation with the Early Learning Coalition of the Big Bend Region, pilot data from this study were used to secure federal funding of nearly $700,000. These funds will be used to examine parental involvement and early literacy experiences of young children in Leon and Gadsden counties, extending the work of the *Hub*.

Future research should include an examination of teacher training and its effects on child outcomes in early literacy. The partnership in this study would be further enhanced with other partnerships in the region so that additional important questions regarding early literacy in young children could be studied. For example, what role does the teacher play in supporting the effectiveness of parents in early literacy, and to what extent do other contexts (neighborhood and peers) affect early literacy development in young children? These questions remain to be answered by future research in partnership with early learning coalition partners and others who are dedicated to the early interventions that can help at-risk children achieve better success in school.
References


### Central Panhandle Regional Readiness Hub Partnership Members

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Chapter 7

Implications for Improving School Readiness in Math and Science: University of Central Florida and the Early Learning Coalition of Seminole

Central Florida Regional Readiness Hub

John P. Manning and Helen Avery
This study was developed in response to local community concerns about the quality and value of the preschool math and science being taught in the area preschools. A grassroots research implementation team examined early childhood math and science cognition and teaching, with a specific focus on children’s mathematical and scientific cognitive development and research focusing on math and science pedagogy in the prekindergarten setting. The study is a combination of two independent pilot studies. In the first study we examined whether training of preschool teachers in math and science content and activities produced changes in teacher behaviors and in the learning environment within 4-year-olds’ classrooms. In the second study we examined whether the same training produced a change in student learning.

In the first study, teachers reported a much higher level of confidence about including math and science in their curricula. The results were mitigated at re-examination visits 6 months and 1 year later by high teacher turnover. The second study that controlled for teacher training, teacher experience, and socioeconomic status (SES) demonstrated that preschool children’s math achievement increased significantly.
Introduction

The Early Learning Coalition of Seminole responded rapidly to the initial proposed Hubs Pilot community/university partnership. The coalition appointed a board representative to the project who, with the university Liaison, assumed the roles of co-chairs of the Central Florida Regional Readiness Hub. Together, they recruited the members of the research implementation team. The team, like other Hub teams that were forming around the state, included representatives of Head Start, faith-based, school-based, and private programs. Representatives from family child care providers, the child care resource and referral agency, the public school system, the state child care licensing office, and the local community college were recruited. These community groups made up the Central Florida Regional Readiness Hub Research Implementation Team (RIT).

The diverse nature of the personnel on the RIT constituted the first problem; virtually no one on the team had ever been involved in a research project. The first task for the university Liaison was to instruct team members in basic research techniques. Team members met once a month and began discussing the school readiness issues relevant to Seminole county. The university Liaison helped narrow the discussion by introducing the concepts of the research question, the ethics of research, institution review board, limiting variables, data collection, confidentiality, and the limiting constraints of the grant regarding site selection. Additionally, the RIT had to consider the availability of university expertise to conduct the planned study.

The RIT examined and identified issues and curriculum matters within the county’s preschool settings. The RIT identified the lack of both formal training and confidence among child care staff as a major obstacle to the teaching of mathematics and science in the prekindergarten classroom. The team agreed to examine early childhood math and science cognition and pedagogy and research, focusing on math and science teaching in the prekindergarten setting.

The RIT established the initial research area and acted as a sounding board to university staff as the research questions and agenda were being refined. During the 2-year process, the university faculty and staff members developed the RIT’s ideas into research questions and a model. The work proceeded in two stages and resulted in a combination of two independent pilot studies. The first study was designed to examine whether supplementary training could be developed to raise the levels of confidence preschool teachers held about teaching math and science to young children. University personnel designed and delivered the training to the selected preschool teachers, created training manuals, gathered data before, during, and after the trainings, conducted the analysis of the data, and modified the training and manuals based on the results. The second pilot study examined whether the modified training produced improved student learning. In other words, if we changed teachers’ levels of confidence about teaching math and science, would it translate into an improvement in young children’s learning in those same curricula areas?
The educational foundation a young child receives prior to kindergarten is crucial for that child’s successful development, not only as the child enters kindergarten, but for the years beyond. Many young children enter kindergarten lacking the necessary readiness skills. Preschool programs vary widely in quality. While many outstanding programs exist, the lack of a standard scope and sequence has resulted in a real disparity between centers, with most giving minimal focus to math and, especially, science. Consequently, young children are entering kindergarten greatly lacking in necessary math and science skills.

Prekindergarten schools traditionally do not have strong programs designed to develop young children’s mathematical and scientific thinking. Instead, these subjects are included mainly as activities designed to expose children to reading and writing numbers, counting, and observing nature. Teaching in these subject areas tends to take the form of simplifying content rather than constructing developmentally appropriate curricula and activities based on young children’s unique cognitive characteristics.

The RIT concluded that the first and foremost obstacle to improving preschoolers’ understanding of math and science was lack of training in those areas among those children’s teachers. In addition, based on observation and anecdotal evidence, the RIT concluded that lack of training was compounded by prekindergarten teachers’ lack of confidence in their own ability in those areas. Indeed, an examination of the literature supported their conclusions. Kallery and Psillos (2001) concluded that the teachers’ scientific content knowledge and their understanding of phenomena they introduced to the children were limited. They also concluded that the majority of the teachers’ conceptions did not coincide with current scientific ideas. This lack of understanding affects many factors involved in the development of effective learning experiences for young children: planning of activities, representation of content, and the nature of teachers’ questions and their understanding of their students’ preconceptions.

Based on the RIT’s theories, the researchers designed two workshop series: one math and one science. The workshops were designed to be three 2-hour sessions linked with homework assignments directed at demystifying the subject areas. The research questions were narrowed to three items that were to be answered over two pilot studies:

- Could these specifically designed workshops raise the self-reported level of confidence of the targeted teachers in the areas of math and science?
- If the levels of confidence were raised, would it result in more math and science being taught?
- Would there be a difference in performance in these curricula areas by the children whose teachers received the designated training?
Jean Piaget (1896-1980) was a strong advocate for the need to select subject matter content, pedagogy, and instructional materials within the framework of the developmental needs of young learners. The preoperational young child thinks and views reality in his/her own unique way. This cognitive structure has distinct implications for how math and science teaching should be implemented in the prekindergarten setting. While evidence exists through the work of Piaget that substantiates the young child’s unique cognitive development, little research has been carried out in relation to how these developmental theories are being applied in the child care context (Sluckin & Smith, 1977).

Piaget’s developmental theory of mathematics places the young child in the concrete stage of development. Within this stage, he identified three areas of knowledge: physical, spatial-temporal, and logico-mathematical. Physical knowledge is derived from the observations of physical phenomena in the environment. Spatial-temporal knowledge is related to concepts of space and time. Logico-mathematical knowledge deals with the study of relationships between and among objects. Physical knowledge is primarily obtained through object manipulation. Young children should therefore have plenty of opportunity for these types of experiences. Topological activities are recommended as the primary way to enhance spatial-temporal knowledge, while activities involving classification, seriation, and number concepts encourage logico-mathematical thinking (Piaget, 1952).

Piaget (1952) also distinguished between empirical abstraction and constructive abstraction—the former being heavily involved in the acquisition of physical knowledge. In empirical abstraction, the focus is on a specific property of an object to the exclusion of other properties of that object. Constructive abstraction involves making mental relationships between and among different objects, such as same, similar, and different. These mental relationships are not observable, since they occur in the mind, but are based on observed, physical knowledge.

Early Mathematical Thinking

Research on young children’s mathematical understanding prior to formal schooling has concentrated primarily on children’s acquisition of numerosity and counting principles. Little research has been carried out that examines children’s mathematical experiences in the child care context. Graham, Nash, and Paul (1997) examined both the “culture” of the child care settings and the mathematical activities and dialogue that took place. During their 12 hours of observations, the researchers observed only 12 instances of mathematical discussion. Only two of these instances lasted more than 1 minute and were centered on direct teaching. Only one instance involved the teacher discussing the conceptual nature of numbers, i.e., that the numeral 3 represents three objects. Teachers in this study stated that mathematics was important and that they engaged in mathematical discussions in the classrooms, even though very little mathematics was observed.
Frye, Braisby, Maroudas, and Nicholls (1989) studied 4-year-olds’ knowledge of counting and cardinality, finding no relation between being a successful counter and successfully identifying the cardinality of a set. Results showed the children to be very good at judging a standard, correct counting procedure, i.e., pointing to each object in turn from left to right, as being correct. They overwhelmingly failed, however, to recognize an irrelevant counting procedure, i.e., starting in the middle of a set, as still being correct.

Becker (1989) provided evidence that young children have knowledge of a central mathematical relation (one-to-one correspondence) that is integrated with their knowledge of a set of conventional signs (number words), a critical development in mathematical reasoning. Kato, Kamii, Ozaki, and Nagahiro (2002) tested children between the ages of 4 and 7 and found that 67% of 4-year-olds showed no 1-1 correspondence, while all of the 5-, 6-, and 7-year-olds did. The remaining 4-year-olds (33%) did demonstrate 1-1 correspondence, but no conservation of number; and none of the 4-year-olds demonstrated both 1-1 correspondence and conservation of numbers. This study highlighted the importance of encouraging young children to make mental relationships about numbers—to encourage them to think mathematically.

Sophian, Harley, and Martin (1995) examined development of children’s representational and relational thinking abilities among 3-, 4-, and 5-year-olds and argued that growth in children’s expertise in counting over the preschool years could contribute to the increased choice of numerical options in the older children. Conversely, the lack of developmental change in the relational aspect of the older children’s performance is significant. If children show no significant improvement, it suggests that relational reasoning is not based on enumeration. If it were, it would improve as enumeration abilities improve, and this failed to occur in this study. It was the integration of these two abilities (relational reasoning and enumeration) that assisted the attainment of quantitative knowledge. The children’s performance in this study reflected the unfolding of this developmental process.

Carpenter, Ansell, Franke, and Fennema (1993) interviewed 70 kindergarten children at the end of the school year as they attempted to solve a variety of word problems. Overall, the kindergarten children demonstrated success in solving the nine word problems presented. Almost half used a valid strategy for all problems, and almost two-thirds correctly solved seven or more of the problems. Almost 90% of the children used a valid strategy for the most basic subtraction and multiplication problems, and over half successfully solved the most difficult problem. Researchers suggested that, by modeling, children can solve a wide range of problems much earlier than generally has been presumed. They also suggested that modeling as a strategy for problem-solving is an intuitive skill in young children and should be encouraged at a much younger age than is currently the case. Researchers argued that doing so would serve to more fully develop problem-solving abilities earlier, thereby preparing young children more effectively for early school math. Sophian and Vong (1995) showed that the 5-year-olds had an understanding of part-whole
relations, but the 4-year-olds did not. The 5-year-olds consistently recognized the part-whole relations even when relatively large quantities were involved. Researchers concluded that the ability to take into account part-whole relations among sets develops during the preschool period and, by 5 years of age, plays a major role in problem-solving.

Warfield (2001) conducted a case study of a kindergarten teacher to examine her methodology for teaching her students how to solve word problems. Warfield concluded that the teacher, through involvement with her students, learned about their individual mathematical thinking abilities and used this information as a basis for making instructional decisions. Warfield identified four factors of influence:

• Utilizing information on children’s mathematical thinking to guide instruction,
• Posing word problems frequently,
• Using both heterogeneous and homogeneous grouping for math instruction, and
• Utilizing other adults as a source of information about students’ mathematical thinking.

Warfield posited that in using this process, the teacher is able to create a “spiral effect,” allowing for continued growth in mathematical thinking of young children.

Early Scientific Thinking

Science research in prekindergarten settings has been traditionally overlooked in early childhood education. Early childhood science programs tend to involve isolated activities structured around popular themes, such as water, trees, animals, etc. While the natural world is a “natural” context within which to present science to children, simply providing interesting and fun activities is insufficient to promote and develop scientific thinking within a young child’s unique cognitive framework. Ravanis and Bagakis (1998) suggested that children under 10 usually lack adequate concept construction. They stated that attempts to introduce science to preschool children take two directions: one being a type of minimum teaching, the other being an initial systematic and organized contact with the physical world (p. 318).

A third approach, the sociocognitive framework, was recently recommended (Pramling & Samuelsson, 2001; Ravanis & Bagakis, 1998). Allowing children to use materials and experimentation independently enabled the teacher to implement materials and strategies that help children to transcend their cognitive obstacles, thereby learning more than they would on their own. Through social interaction the child can discuss his/her spontaneous concepts and begin to develop natural scientific thinking.

Hadzigeorgiou (2001) suggested that certain activities that do not appear to be pedagogically appropriate should not necessarily be excluded from a science curriculum. “…[T]here are activities that can make children feel perplexity, wonder, amazement and surprise without the
possibility of their direct action on objects and subsequent investigations” (p. 65). He stressed that it is this initial wonder specifically experienced by children that can create the curiosity that is so vital to learning, even carrying over into later school years. It is, he posited, the establishment of a long-term relationship between science and the child that helps build a strong conceptual base. In addition, he stated that this emphasis on attitudes towards science might be more important than a conceptual base, because attitudes serve as prerequisites, or motivators, for children’s engagement in science activities.

Limited research studies in early math and science reflect that both areas are lacking in the prekindergarten setting. That is not to say that math and science instructions do not occur in child care centers. What the research studies do show, however, is the lack of a formal, structured program designed to teach children math and science in developmentally appropriate ways. Teachers use many activities to introduce math and science to children, but these tend to be just that—activities—and lack the pedagogical framework necessary to develop children’s cognitive abilities and make them ready for school. Combined with these findings are the limited content knowledge and lack of experience of many prekindergarten teachers. This affects many areas of early learning, from proper lesson planning to effective delivery and interaction with students (Rushton & Larkin, 2001).

While the research studies investigating children’s math and science thinking are limited, evidence consistently showed that young children are more capable of higher-level thinking than previous research has purported. Research studies showed that children undergo dynamic cognitive development in their ability to conceptualize between ages 3 and 5, and that this developmental growth should be capitalized on through more aggressive math and science curricula (Pramling & Samuelsson, 2001; Ravanis & Bagakis, 1998; Hadzigeorgiou, 2001).

**Methodology**

**Participants and Procedure**

The first objective of the project was to help strengthen the infrastructure of the local early childhood education community through university involvement in bringing research to practice. This committee met on a monthly basis to discuss and establish a research agenda. Over a 2-year period, the RIT agreed that, in light of the current emphasis in early childhood on reading and pre-reading, an examination of math and science would be beneficial. This examination of math and science became their research agenda.

Based on experiential and observational data, the RIT hypothesized that a personal lack of confidence on the part of the county’s preschool teachers coupled with their lack of training in these subjects were the major stumbling blocks for effective and increased math and science curricula inclusion. The committee shared and examined their curricula, discussed pedagogy, and
was instructed on scientific experimental design. In the end, the committee agreed on two pilot studies if funding were made available. First, one study would test the model they developed: Would the level of individual teacher’s confidence about teaching math and science improve? If improved, would the frequency that math and science were taught increase? Second, pending the results of the first study and assuming the results would warrant an additional study, the next study would examine the impact of this increase in teaching math and science on children’s academic performance. Two trainers were hired to develop and deliver a set of serial workshops: one for math and the second for science.

Four different types of preschool settings were selected from a small city in a county in central Florida. They included a faith-based preschool, a public preschool at an elementary school, a Head Start program, and a private enterprise. These locations were chosen by the members of the RIT. The RIT picked centers where 50% of the children were considered at-risk. The training location for the workshops was chosen for convenience and proximity to participants’ homes. Each center was asked to participate and was told that any preschool classroom staff member from that facility could take part in the program, although the study was focused on teachers of 4-year-olds. Participants would attend workshops to learn more about science and math to use at their sites.

Each participant agreed to attend an informational meeting and six workshops that focused on math and science and participate in a follow-up visit. These participants were awarded a stipend of $300 for their full involvement in the study. Twelve preschool staff members agreed to participate. Attendees were to actively engage in the math and science workshop series, as well as pre- and post-interviews about their perceptions of math and science in their classrooms. Assignments were given to be completed between sessions. Participants were expected to document the changes that had impacted their teaching of math and science in their classrooms. Every site involved was given a digital camera to help document the experiments that were done in the classrooms. These pictures also provided documentation for this research project. Both the homework and the cameras were used in an attempt to strengthen the participants’ involvement.

Graduate interns were assigned to each child care site for pre-assessment purposes. These interns were used throughout this project as site liaisons to collect data preceding and following each workshop. The first meeting was an orientation meeting for informational purposes to explain the research program obligations. Participants were given the specifics and dates for each workshop they were required to attend.

Prior to the first workshop, graduate interns contacted the participants from their assigned site, either by phone or email. The participants were asked to self-evaluate their feelings towards science and math, along with what their greatest challenges in teaching these subjects have been, and what they hoped to gain from this experience. The questionnaire included both Likert scales and a short written section.
Twelve preschool teachers participated in Pilot Study 1; 11 were classroom teachers and one was a classroom supervisor for the public school prekindergarten program. Five of the teachers taught in a mixed-age setting of 3-, 4-, and 5-year-olds. Four taught 4- and 5-year-olds in prekindergarten, and one was a toddler teacher. Of the 11 classroom teachers, only one had an associate’s degree. Two teachers were working on their associate’s degrees. Seven held high school diplomas, and one did not report her education level.

At the conclusion of these workshops we hypothesized that the participants would feel an increased level of confidence in teaching math and science. Attending these workshops was intended to improve the quality of teaching in these subject areas at the preschool level to make children more prepared for school. The workshops were conducted on Saturdays over an 8-week period; mornings were dedicated to math and afternoons were dedicated to science. All of the activities in the workshops were designed to meet and reinforce the guidelines from the Florida Sunshine State Standards.

Math workshops included working with numbers using hands-on experiences, singing songs, and reading stories with numbers. These hands-on math activities gave participants ideas and routines that could be taken back to the classroom and used every day. Homework was assigned and later reviewed at the next workshop. The assignments were designed to allow time for the participants to reflect on the material covered in the workshop and allowed time for the participants to develop ideas and questions that could be shared and answered.

Science workshops gave participants time to learn about science and to teach the idea that science is all around us. Hands-on experiments were demonstrated, songs were sung, and books were shared that matched the Florida Sunshine State Standards. Following some hands-on science experiments, the attendees were made aware of basic science process skills through which children learn. Characteristics of Piaget’s cognitive learning theory were discussed and examined closely to give participants a little background knowledge of children’s learning behaviors through different stages. This understanding of how children develop was thought to enhance the understanding of teachers’ views of their students.

If the first pilot study supported the committee’s hypothesis, then the second pilot study, with some slightly larger numbers, would examine the impact on preschool children’s learning. Pilot Study 1 (PS1) must demonstrate that an increase in content confidence will result in an increase in content frequency. The workshop-style intervention and pedagogy remained the same. Based on participants’ feedback, the science workshops were retooled.

Centers were recruited from a mandatory countywide meeting of centers participating in the state-sponsored school readiness program. Classrooms of 4-year-olds from 10 centers were selected, matched for teacher education, years of experience, and the children’s socioeconomic
status. Students in each of these classrooms \( (n = 80) \) were assessed using the math subtest of the Young Children’s Achievement Test, or YCAT (Hresko, Peak, Herron & Bridges, 2000).

Five teachers were identified to receive RIT workshop intervention. The other five acted as the control group. All the teachers were compensated for their participation at the conclusion of the study with a package of math and science classroom materials worth approximately $300. Each kit contained developmentally appropriate equipment selected by the study’s consultant/trainers. At the conclusion of the study, the teachers from the control group were also offered the workshop training. Student posttests \( (n = 76) \) were conducted approximately 1 month after the conclusion of the workshop intervention using the YCAT instrument (Hresko et al., 2000). The decision for the rapid retesting of students was driven by two factors: logistical problems involving the scheduling of the workshops, which started later than initially hoped; and several schools were scheduled to close for the summer in the last week of May, so we risked losing track of a sizable portion of the study’s participants.

### Study 1 (PS1)

Level of confidence with the subject matter was self-reported in three content areas: Language Arts (LA), Math (M), and Science (S). Each area had subcategories: concepts (scaled 1 to 4; with 4 being extremely confident) and activities (scaled 6 being every day to 0 being never).

#### Table 1

**Summary of Levels of Confidence by Content Area**

<table>
<thead>
<tr>
<th>LOC</th>
<th>LA Concept</th>
<th>LA Activities</th>
<th>M Concepts</th>
<th>M Activities</th>
<th>S Concepts</th>
<th>S Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest ( (n = 12) )</td>
<td>3</td>
<td>4.83</td>
<td>2.75</td>
<td>3.16</td>
<td>2.83</td>
<td>2.75</td>
</tr>
<tr>
<td>Posttest ( (n = 9) )</td>
<td>3.11</td>
<td>4.88</td>
<td>3.75</td>
<td>4.75</td>
<td>3.13</td>
<td>3.88</td>
</tr>
</tbody>
</table>

Table 1 indicates the self-reported change in the participants’ level of confidence measured 6 months after the initial RIT workshop. In all six subcategories, the teachers reported a higher level of confidence. This reported confidence was confounded in two ways. First, the reported frequency of activities for both math and science dropped: from an average 4.75 times a week for math to 4.33; and from 4.36 times per week for science to 3.66. Second, only 9 of the 12 teachers were still employed by those centers. In less than 6 months since the RIT workshop series ended,
25% of the teachers had left their employment; a year later, 6 of the 12 were no longer in place. As an independent measure of quality, the Early Childhood Environmental Rating Scale-Revised Edition (ECERS-R; Harms, Clifford, & Cryer, 1998), was used to retrieve a snapshot of overall center quality. The ratings resulted in a mean of 6.625 and a range of .28.

**Study 2 (PS2)**

Results of the second study, PS2, were focused on the data derived from the children’s math assessment with the YCAT instrument. After one center dropped out of the study and four children were unavailable for testing, the results of the 76 children’s pre- and posttests were analyzed. Thirty-eight children remained in the treatment group and an equal number in the control group. The mean age for the children in each of the groups was 4 years 5 months. Table 2 shows the descriptive statistics for the number of test items answered correctly.

**Table 2**

**Pre- and Posttest YCAT Statistics by Grouping**

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>5.74</td>
<td>3.462</td>
<td>38</td>
</tr>
<tr>
<td>Treatment</td>
<td>5.11</td>
<td>3.351</td>
<td>38</td>
</tr>
<tr>
<td>Combined</td>
<td>5.42</td>
<td>3.399</td>
<td>76</td>
</tr>
<tr>
<td>Posttest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>6.21</td>
<td>3.496</td>
<td>38</td>
</tr>
<tr>
<td>Treatment</td>
<td>6.74</td>
<td>3.277</td>
<td>38</td>
</tr>
<tr>
<td>Combined</td>
<td>6.47</td>
<td>3.376</td>
<td>76</td>
</tr>
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</table>

A univariate analysis of variance was performed to address the question of whether the control and treatment groups were actually different. The critical value of $F(2, 74)$ at an alpha level of .05 is 3.12, while the observed $F$ ratio is 15.228 (Table 3). This analysis of variance indicated that there was a significant difference in the level of achievement between the group receiving treatment and the control.
**Table 3**

*Summary for Pre- and Posttest YCAT Scores by Treatment Group*

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posttest scores</td>
<td>3</td>
<td>3606.864</td>
<td>1202.288</td>
<td>202.631*</td>
</tr>
<tr>
<td>Pretest scores</td>
<td>1</td>
<td>416.548</td>
<td>416.548</td>
<td>70.204*</td>
</tr>
<tr>
<td>Treatment</td>
<td>2</td>
<td>180.709</td>
<td>90.354</td>
<td>15.228*</td>
</tr>
<tr>
<td>Error</td>
<td>73</td>
<td>433.136</td>
<td>5.933</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>76</td>
<td>4040.000</td>
<td>4040.000</td>
<td></td>
</tr>
</tbody>
</table>

*p ≤ .0001

**Discussion and Implication**

PSI is significant in at least two ways. First, it demonstrated that a very small amount of direct instruction (6 hours) in specific content area positively impacted these teachers’ level of confidence about teaching in that content area. Second, it demonstrated a disconnection between knowledge and practice. More specifically, as the findings indicated, teachers claimed to have a high level of confidence (LOC) in math, yet they did not frequently teach a math lesson. One explanation of this could be that the participants might have become more accurate with their answers in the post-training interviews. It is safe to say that after the training, the teachers’ awareness of math and science within the classroom was heightened. It is possible that they were doing even less than they reported in their pre-training interviews, estimating it at a much higher level than justified in reality. After the training, the teachers reported more precise data.

Nonetheless, post-workshop interviews indicated that these teachers were not implementing what they had learned at the workshops. When asked, “As a result of participating in the workshops, how do you use math in the classroom?” none of the teachers referenced any activities that were taught at the workshops. Answers were broad and unspecific. For example, one teacher said, “[W]e do a calendar every day, but we’ve always done that.” Another teacher answered, “[U]sing some of the activities that we received at the workshops, the activities work right into the classroom. All the information was good.” Another participant said, “Teaching the kids different math activities.”

Teachers responded similarly with regard to science. For instance, one teacher who teaches 4- and 5-year-olds said, “Teaching the kids different science activities.” Another participant responded, “Workshops were a good refresher, but I do not like science enough to have a desire to teach more than I need.”
The data indicated that while the teachers reported a high level of confidence (LOC) in teaching science, they do not actually have the knowledge to teach the needed lessons in science, therefore the said level of confidence might not be accurate. Further, the teachers might have a desire to teach effectively, however, the fact that they are not teaching to the state standards and are not frequently teaching science lessons indicates that they do not know how to teach these important lessons to prepare their students for kindergarten. This information supports the findings of Graham, Nash, and Paul (1997) and Kallery and Psillos (2001).

All participants felt that their strongest area of teaching was in language arts. However, when asked why this was their most influential teaching area, only one teacher mentioned reading or books. Some teachers mentioned that language arts was their most influential teaching area and then discussed math and science as the reasons for language arts being so influential. The teachers did not seem to focus when answering this question; they were unaware that language arts included books, reading, predicting, letters, and phonemic awareness. Answers included the following: “Maybe the language arts and math area because the language arts is in every area of the classroom. Science is mostly conducted, most of the time, to one area of the classroom and math is just in every area. Math is in the blocks, house, the science area, the manipulatives area, all of the classroom you will find areas of math...the kids are doing math in every area,” and “Probably the language arts because we do a lot of reading and I do a lot of talking with the children and we do a lot of dictation with them. They choose books that they want to read...and math, too. Because they have a lot of activities that they do in math in the classroom, little things, that you wouldn’t even think was math. They’ll count, or sometimes I’ll have kids that say, ‘1 + 1 is?’ ‘What is 1+1?’...all these questions. Math and science are the most influential.”

Lastly, in PS1, we are confronted with one of the major problems facing early childhood education today: staff turnover. Within 6 months of receiving training, 25% of the teachers for the beta sites were not employed. A year later, 50% were not employed. These centers were all serving an at-risk population and were all rated high in quality based on their ECERS-R scores. It is conceivable that the issue of staff turnover may be the greatest challenge of the early childhood infrastructure.

PS2 is noteworthy because it showed that the intervention was effective, and that its effectiveness was evident in such a brief period of time. Table 3 shows that the children in both the control group and the intervention group had significant increases in the YCAT scores, but that the invention group had a significant difference over the control group as well. We speculate that involvement in the study produced a halo effect in both groups. All the teachers had volunteered to be a part of the study, and they were aware that math and science were being examined. It is possible that the teachers from both groups increased their emphasis of these content areas over the intervening month that was bracketed by the pre- and posttesting of the students.
The second item from PS2 that needs discussion is that no reliable measure of preschool science achievement was available to assess the students in the study. One of the major drawbacks to this study was discovered while establishing the study's methodology. At the time of this study, an objective instrument for assessing the science knowledge or the scientific thinking of preschool-age children did not exist. Several other researchers are currently working on the development of a tool to assess preschool science, but at the moment no such tool exists! As such, we have speculated that if we can demonstrate a significant increase in the math content area with the intervention, we might be able to assume a similar result in the science area. This can only be assumed because of the underlying belief that teachers' lack of confidence in these subject areas lowers the frequency of the content activity. While it can be said that the study established credibility in the methodology of the training and with the content of the math curriculum, the same cannot be said about the science portion. While positive results about the methodology based on PS1 can be claimed, the study failed to prove its success with science curriculum in spite of a strong indication that it was following the same pattern as the math results.

The entire study cycle was compressed. Although the sample was good and controlled for teacher education, experience, and SES, it was small. A larger random sample would have enhanced the study. Ideally, it would have been better to conduct the pretest and the teacher training toward the beginning of the year, and then conduct the posttests several months later at the end of the year. This might have mitigated any halo effect and measured the long-term impact of the intervention. The grant cycle prevented better timing of the procedure, but will be considered for the future.

What may be most significant about these studies is that together they demonstrate that a small amount of appropriate intervention can make a big difference. The study indicated that preschool teachers need to be taught how to teach content areas in developmentally appropriate ways. When teachers are taught, children benefit. As Warfield (2001) found, these studies support the teachers’ need to be engaged with their students’ learning process.

Curricular models should also be modified to include a socio-cognitive approach to teaching (Pramling & Samuelsson, 2001; Ravanis & Bagakis, 1998). Rather than simply providing “fun activities,” learning should be structured to enable children to form and test their own hypotheses through active experimentation and dialogue. This dialogue and social interaction with teachers and peers is crucial to the development of a “co-learning” environment, wherein the young child becomes increasingly aware of his/her own role in the learning process. This leads to greater emotional engagement, which in turn encourages the excitement and wonder of discovery. These experiences should occur frequently and consistently to create a spiraling effect that allows for continued growth over time.
These changes can only occur through increased teacher training. Preschool teachers who typically lack math and science content knowledge also lack confidence to adequately teach these subjects. In addition, many preschool teachers are not well-versed in theories of early learning cognition and pedagogy. Consequently, teachers need to be trained in both content and theory. Only then can young children be adequately and effectively prepared for kindergarten and beyond. The challenge will continue to be how to implement these changes across the board, given the wide variety and disparity present in prekindergarten programs nationwide.

This research study demonstrated that preschool teachers need more training in areas of math, science, and language arts. Some teachers wanted to participate in more workshops to increase their knowledge and skill in these areas, while others were discouraged and are no longer working in the teaching profession at these schools.

Interestingly, the teachers from PS1 who did complete the workshops were still not incorporating the activities that they learned at the workshops, a phenomenon that needs to be examined further. Explanations could include intimidation, lack of confidence, or lack of knowledge in these subject areas. However, a certain amount of recidivism for old teaching habits may exist, especially given the average educational level of this sample. Further examination of this phenomenon is recommended, and certainly needs to be factored into any further training models.

Beyond the direct results of these two studies were additional unanticipated results. These serendipitous results developed as an effect of the partnership that was forged, rather than out of the studies themselves. This Hub collaboration brought unusual partners to the same side of the table—the researcher and the practitioner. By putting a human face on the research, practitioners felt supported in their move to improve quality and less intimidated by the concept of using research to design programs. This work created opportunities for other small field-research projects. Some involved members of the RIT directly, and others involved practitioners from the greater early childhood community who had heard of our work in the Hub. Additionally, because we documented the training we developed in the form of training manuals, we were invited to conduct training for early childhood educators at a statewide Florida conference, thereby reaching a greater audience.


Pramling, N., & Samuelsson, I. P. (2001). It is floating ‘cause there is a hole’: A young child’s experience of natural science. *Early Years, 21*(2), 139-149.


## Central Florida Regional Readiness Hub Partnership Members

<table>
<thead>
<tr>
<th>Affiliation</th>
<th>Person’s Name</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Representative(s)</td>
<td>John P. Manning (co-chair)</td>
<td>University of Central Florida</td>
</tr>
<tr>
<td>Coalition Partner(s)</td>
<td>Karen Willis</td>
<td>Early Learning Coalition of Seminole County</td>
</tr>
<tr>
<td>Resource and Referral Agency Representative(s)</td>
<td>Helen Avery (co-chair)</td>
<td>Community Coordinated Care for Children (4C)</td>
</tr>
<tr>
<td>Other Faculty Members</td>
<td>Deirdre Englehart</td>
<td>University of Central Florida</td>
</tr>
<tr>
<td>Community College Representative(s)</td>
<td>Nana Robertson</td>
<td>Seminole County Community College</td>
</tr>
<tr>
<td>Family Child Care Representative(s)</td>
<td>Katherine Lewis</td>
<td>Gentle Place Child Care Home</td>
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<td>Subsidized Representative(s)</td>
<td>Daisy Moralles</td>
<td>Kids First Steps</td>
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<tr>
<td>Faith-based Representative(s)</td>
<td>Mary K. Pillmear</td>
<td>Lutheran Haven Early Childhood Center</td>
</tr>
<tr>
<td>Head Start Representative(s)</td>
<td>Phyllis Scott</td>
<td>Seminole County Head Start</td>
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<tr>
<td>School-based - District Representative(s)</td>
<td>Maritza Galceran</td>
<td>Seminole County Public Schools</td>
</tr>
<tr>
<td>Child Care-related Representative(s)</td>
<td>Pat Richardson</td>
<td>Dept. of Children &amp; Family Child Care, Licensing Division</td>
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<td></td>
<td>Shirley Rosenberg</td>
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<td></td>
<td>Tammy Tener</td>
<td>Florida Family Child Care Association, President</td>
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<tr>
<td>Community Members</td>
<td>Juliet Stevens</td>
<td>Public School/Teacher &amp; Consultant</td>
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<tr>
<td>Others</td>
<td>Jennifer Giblin, Jennifer Green,</td>
<td>UCF Graduate Research Assistants</td>
</tr>
<tr>
<td></td>
<td>Susan Zabriskie, Tanaya Howard-Peters, &amp; Gina Burnett</td>
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Chapter 8

Tools and Strategies for Supporting Children's Socio-Emotional Adjustment During Transitions in Care: University of South Florida and the Early Learning Coalition of Polk County

Mari T. Fernandez, Kofi Marfo, Kris Giordano, Sandy Hightower, and Nanette Rodgers
Abstract

This paper describes the process of developing and piloting the *Early Care Adjustment Rating by Educators (E-CARE)*, as well as preparing child care professionals to implement it. The *E-CARE* is a practitioner-oriented, criterion-referenced instrument designed to identify and address adjustment difficulties that young children may experience during transitions in care. In addition to offering a tool for dealing with some of the earliest precursors of adjustment difficulties, the paper also showcases some of the benefits of collaborative partnerships between universities and community-based agencies. The *E-CARE* is part of a program of research and development through which the Center for Research on Children’s Development and Learning at the University of South Florida is using a university-community partnership model to support the delivery of high-quality early care and educational programs. Through this genre of work, the Center seeks to shape public policy and professional practice regarding early development and school readiness by emphasizing the importance of investing in the earliest years of life and advocating for increased attention to socio-emotional development as a critical foundation for optimal development and learning.
**Introduction**

The Tampa Bay Early Learning *Hub* encompassed a nine-county region in West Central Florida consisting of Hardee, Hernando, Highlands, Hillsborough, Manatee, Pasco, Pinellas, Polk, and Sarasota counties. The Center for Research on Children’s Development and Learning (CRCDL) on the Tampa campus of the University of South Florida (USF) served as the home base for the project, and the Early Learning Coalition of Polk County (ELC-Polk) served as the local coalition partner. Tool development activities that were integral to this project were also carried out in partnership with Coordinated Child Care of Pinellas, Inc. (the central agency for child care in Pinellas County) and the members of its Pinellas Pre-K Workgroup.

One of the first goals of the local *Hubs Pilot* project was to establish a partnership with an early learning coalition. The Early Learning Coalition of Hillsborough County was a logical first choice as a partner for USF’s *Hub*, given that the university representatives are based at the Tampa campus. However, the Hillsborough Coalition declined to participate in the project due to other priorities. This forced the university representatives to consider more closely variables that contribute to successful partnerships of this type. Several critical factors emerged: identifying mutually beneficial goals, connecting with individuals with strong leadership skills and knowledge of the early childhood field within the partner organizations, and establishing efficient communication networks. With these factors in mind, the university representatives explored a possible partnership with ELC-Polk.

The ELC-Polk agreed to serve as USF’s partner in December 2001, and meetings took place to familiarize the coalition and its Enhancements Committee with the *Hubs* project. The already well-established Enhancements Committee became the core group for the implementation team, as the committee’s membership included highly experienced and well-connected professionals from all of the key constituent groups needed for the *Hub* project (Head Start; faith-based, public school-based, and subsidized early care settings; community college; and business). This committee had regularly scheduled monthly meetings that proved invaluable for *Hub* process reviews, updates, and dialogues. A five-member leadership team was formed, with three members from the Enhancements Committee and two from USF.

During the first year of the project, a major goal of the Tampa Bay Early Learning *Hub* was to identify pressing unmet needs affecting young children’s school readiness at the local level and to develop a research and development agenda around those needs. Based on local and regional needs and priorities identified by the implementation team, the leadership team selected social/emotional and physical health and development as the project’s focus areas, and the age range of birth to age 3 (infants/toddlers) as the target group. The age range reflected both the coalition’s priority on infant/toddler care and a perceived statewide need to focus on this often-neglected age group.
In subsequent meetings the leadership team narrowed the scope of the project to socio-emotional development, and specifically to addressing children’s adjustment during the transition to and within nonparental care settings. The original model, which included physical health and development, was deemed overly ambitious and no longer feasible given reductions in project funding.

In response to a need previously identified by Coordinated Child Care of Pinellas, Inc. and its Pre-K Workgroup, CRCDL was already in the early stages of developing an adjustment tool for preschool children entering a new child care setting. In order to utilize time, skills, and expertise efficiently, the Tampa Bay Early Learning Hub Leadership and Implementation Teams reviewed an early draft version of that tool, the *Early Care Adjustment Rating by Educators (E-CARE; Fernandez, Granek, Marfo & Associates, 2003)*. The tool’s main objective—to support children’s adjustment during transitions in care—was determined to be consistent with the goals of the *Hubs Pilot*, and both teams approved the adoption of this preliminary instrument for the project.

The statewide school readiness initiative had given a specific charge to each of the Regional Hubs: to develop tools and strategies to support school readiness. Consistent with this broader mission, the principal goal of the Tampa Bay Early Learning Hub’s project was to develop, refine, field-test, and disseminate the *E-CARE*.

In designing the tool, conscious attention was given to acknowledging the realities of the early childhood field and to designing steps that would foster reasonable systems change. Several guiding principles drove the tool-development process. First, to meet the needs of the community agency that requested its development, the tool would need to be brief and user-friendly for child care providers, some of whom have limited professional preparation and very limited experience with assessment. Second, the tool would need to be tested for readability as well as for consistency with the processes encountered in typical early care and learning programs. Finally, to foster the development of systematic and collaborative problem-solving to support children’s adjustment, the tool would need to have subcomponents that could be incorporated gradually into care routines.
A number of key issues and constructs undergirded the tool-development process and its emphasis on adjustment during transitions in early care. The literature that informed this work is briefly reviewed below.

**Ecological/Systems Framework**

The development of the *E-CARE* is conceptually rooted in ecological and contextualist orientations of human development (Bronfenbrenner, 1979; Sameroff & Fiese, 1990; Lerner, 1991). The systems thinking that guided the development of this tool emphasized the interplay of a child’s dispositions and environmental forces in molding development (Bronfenbrenner & Morris, 1998). This orientation highlights strategies for building strong linkages between the child care setting and the home setting and for helping child care practitioners and administrators understand their roles and functions as touching multiple systems and developmental environments.

**Early Years of Development and Readiness for Learning**

Evidence of the importance of the earliest years of life for children's development and learning continues to mount (Shonkoff & Phillips, 2000). We know that even before birth, babies’ brains are ready to make important “learning links” and that many such connections are made in the first three years of life. Yet despite the empirical evidence on the importance of the early years, the birth-to-3 period still receives significantly less attention in efforts to enhance school readiness (Marfo, 2001, 2002; Kamerman & Kahn, 2004; Zigler & Styfco, 1993). Several plausible reasons for this underemphasis can be postulated.

One possible contributor is how narrowly school readiness has been operationalized—frequently with an emphasis on pre-academic skills gained in the year immediately preceding entrance to kindergarten, without significant attention placed on the foundations for these skills. Another plausible factor is the demarcation that is often made between care and learning. Though the terms are not always used consistently in everyday practice, most frequently caring and learning are treated as related but separate activities. Child care/early care is often associated with environments serving the youngest children, typically through age 3, while preschool is associated with settings serving older children, usually ages 4 to 5, and connotes more formal teaching/learning. This distinction between caring and learning sometimes mistakenly suggests that “real learning” only begins at the preschool level. The distinction is not just an issue of semantics; if valuing is measured in terms of compensation, resources, and attention, “learning” in the U.S. is generally more highly valued and supported than “educaring” (Reno, 2000).

**Socio-emotional Development as a Foundation for Learning**

Advances in developmental psychology and infant/child mental health underscore the pivotal importance of socio-emotional development in the early years for both short- and long-term outcomes for children (Honig, 2002; Raver, 2002). Increasingly the scientific evidence has shown...
that the enhancement of children's socio-emotional competence is at least as important as the promotion of linguistic and cognitive competence in early childhood intervention programs (Shonkoff & Phillips, 2000).

Children's experiences and relationships within the contexts in which they live and grow are critical to their socio-emotional development. For most young children, the family is the most immediate and primary setting for socialization (Hembrooke, Morris, & Bronfenbrenner, 1996). For increasing numbers of children, however, the child care setting is also an immediate and primary setting. Notwithstanding the debate that continues to rage regarding the appropriateness of out-of-home care for young children, the reality in the United States is that increasing numbers of children spend significant parts of their day in out-of-home care (NICHD Early Child Care Research Network, 2001).

**Early Adjustment and Transitions in Care**

A rich literature base addresses the assessment of psychopathological factors in adjustment as typified, for example, by the Child Behavior Checklist (Achenbach, 1998). However, the identification of early and sometimes subtle adjustment difficulties that are experienced by some young children in new settings has received less attention. Yet from a prevention framework, these subtle difficulties can be important; if not resolved, they may become precursors of more significant challenges for some children (Raver, 2002).

Placement in out-of-home child care is often the child's first significant change in caretaking routines or settings, and it may be one of the first instances where adjustment difficulties are detected. Entry into a new child care setting is thus one of the earliest major ecological transitions experienced by young children and their families (Bronfenbrenner, 1986).

From a systems perspective, how a child is able to function in a new setting can be significantly affected by how the ecological transition into that setting is made (Bronfenbrenner, 1979). Each transition that the child makes has the potential to impinge on his or her functioning in that setting and also can affect subsequent transitions into other settings. Transitions can thus have far-reaching implications not only for the child, but also for the family and the child care staff. It is often during such transitions that the first interconnections are formed between the home and the care setting. Information, attitudes, and expectations that the family has about the child care personnel and the child care setting influence the transition process. Reciprocally, the transition process is influenced by the knowledge, attitudes, and expectations that caregiving staff has about the family and the home setting.

**Caregivers' Role in Supporting Adjustment During Transitions**

The importance of a strong socio-emotional foundation for the child's readiness to learn, coupled with the opportunities presented during transitions in care to support adjustment, make
it imperative that practitioners be prepared to support children and families during this critical developmental period. A child struggling to adjust to a new setting requires vigilance, empathic understanding, and skilled responsiveness. Even when caregivers possess these qualities, responding appropriately to the needs of children with adjustment difficulties takes significant time and thus impacts the quality of care that other children receive. Persistent adjustment difficulties in one or more children could also have the unfortunate effect of wearing down caregivers and causing them to doubt their own sense of professional efficacy. Caregivers may be less emotionally available to other children and doubt their ability to make a positive difference in children’s lives. The stress of caring for children with significant adjustment problems may be one unexplored factor in the epidemic of staff turnover in the child care field (Fernandez & Marfo, 2005). These concerns highlight the importance of professional preparation in the use of tools such as the E-CARE if practitioners and the children and families they serve are to fully benefit from their use.

Methodology: Tool Development and Piloting Methodology

The E-CARE tool-development and piloting processes occurred in the context of collaborations with two partnership organizations: Coordinated Child Care of Pinellas, Inc. (which provided the impetus for the initial development work) and the ELC-Polk (which provided the sites and early care personnel for the majority of the piloting work, leading to the final versions of the instrument). Meetings were held initially, and periodically thereafter, with key stakeholders associated with Coordinated Child Care of Pinellas, Inc. to build a collaborative ethos and to develop common understandings of the need for and potential uses of the tool and to determine the intended target population. After gaining a clear understanding of these issues, CRCDL faculty developed a draft version of the tool, subjected it to initial readability analyses to ensure appropriateness for the target population, and submitted it for review by the Pinellas Pre-K work group. This group was comprised of early care professionals at the executive director and program manager levels, representing sites that received funding from the United Way as well as representatives of Coordinated Child Care of Pinellas, Inc. The group, which also included at least one member with direct caregiving and instructional responsibilities, provided initial feedback on the content and format of the tool.

The revisions that followed the feedback provided within the Pre-K group resulted in three levels of the instrument (Infant, Toddler, and Preschool), each of which had the key elements of the instrument's final structure. When the instrument was enfolded into the Hubs Pilot project, the stage was set for a large-scale field evaluation. This was followed ultimately by intensive work with directors and staff at four early care beta-testing sites, as required under the mission and guidelines of the statewide consortium.
Large-Scale Field Evaluation

Working in concert with the implementation committee, the leadership team took advantage of the 2003 Polk Collaborative Partners Winter Conference to obtain independent evaluation of several dimensions of the *E-CARE* by a county-wide group of frontline early care and preschool professionals attending the conference. A total of 258 professionals responded to three brief evaluation questionnaires assessing, for the respective age levels: (a) the usability of the tool; (b) the purpose, instructions, and logistics of the two-stage rating process; and (c) the importance and user-friendliness of the action-planning process, including perceptions about the amount of training and practice necessary to develop and implement an action plan. Of the 258 professionals responding to the questionnaires, 38, 29, and 191 described themselves as working mainly with infants, toddlers, and preschoolers, respectively.

Tool Development and Piloting Findings

Findings of the Large-Scale Field Evaluation

The specific dimensions of the evaluation and the results associated with them are summarized in Tables 1, 2, and 3. The response scale for the usability questionnaire (Table 1) had 4 points: *appropriate as is*, *needs some change*, *needs major change*, and *unacceptable*. Because the overwhelming majority of respondents selected only the first two options, Table 1 summarizes percentage responses to those two options only. The results show clearly that at all three levels (Infant, Toddler, and Preschool), 90 to 93% of early care professionals found items to be clearly stated (Q1) and the rating form easy for a teacher to complete (Q3). Eighty-three to 90% of professionals found the overall format to be useful (Q5), while 82 to 85% found the items to be comprehensive of key areas of adjustment (Q2). The percentage of teachers who thought the form could be completed in a reasonable amount of time (Q4) was also very high for teachers of infants (95%) and preschoolers (90%); the corresponding figure for toddler caregivers was 74%.
Table 1
Percentage of Caregivers/Teachers Selecting Particular Responses on Usability Survey

<table>
<thead>
<tr>
<th>Usability Evaluation Criteria</th>
<th>Respondents' Assigned Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Infant (n = 56-38)</td>
</tr>
<tr>
<td>1. Clarity: Are the items stated clearly?</td>
<td></td>
</tr>
<tr>
<td>Appropriate as is</td>
<td>89.7%</td>
</tr>
<tr>
<td>Needs some changes</td>
<td>-</td>
</tr>
<tr>
<td>2. Items covered: Do the items cover all key areas of adjustment?</td>
<td></td>
</tr>
<tr>
<td>Appropriate as is</td>
<td>84.6%</td>
</tr>
<tr>
<td>Needs some changes</td>
<td>-</td>
</tr>
<tr>
<td>3. Ease of completion: Is the form easy for a teacher to complete?</td>
<td></td>
</tr>
<tr>
<td>Appropriate as is</td>
<td>92.3%</td>
</tr>
<tr>
<td>Needs some changes</td>
<td>-</td>
</tr>
<tr>
<td>4. Estimated completion time: Could the form be completed in a reasonable amount of time?</td>
<td></td>
</tr>
<tr>
<td>Appropriate as is</td>
<td>94.9%</td>
</tr>
<tr>
<td>Needs some changes</td>
<td>-</td>
</tr>
<tr>
<td>5. Use: How useful/appropriate is the overall format?</td>
<td></td>
</tr>
<tr>
<td>Appropriate as is</td>
<td>89.5%</td>
</tr>
<tr>
<td>Needs some changes</td>
<td>2.6%</td>
</tr>
</tbody>
</table>

Table 2 shows clear differences in the way infant, toddler, and preschool caregivers responded to the plan to schedule the initial rating on the E-CARE for the 4th to 5th day of a child's continuous attendance. Overall, the percentage of caregivers finding the timing of the initial training to be appropriate was so low (53 to 70%) that this dimension of the instrument received the greatest attention during the revision process and was an important factor in the subsequent change to the 9th or 10th day.
The questionnaire on the Action Planning process revealed two notable findings, summarized in Table 3. The first is that less than one-third of all respondents at all three levels reported that they would feel comfortable with the Action Plan with no formal training. Across all three levels, approximately 70% of respondents reported that at least some formal training and practice would be necessary to develop and implement the Action Plan. The second noteworthy finding is that the vast majority of respondents indicated that they would likely or definitely use the Action Plan in their own setting (94%, 93%, and 91% of professionals at the infant, toddler, and preschool levels, respectively).
Table 3
Percentage of Caregivers/Teachers Selecting Specific Responses on the Action Plan Survey

<table>
<thead>
<tr>
<th>Action Plan Evaluation Criteria</th>
<th>Respondents' Assigned Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Infant $(n = 36-38)$</td>
</tr>
<tr>
<td>1. Clarity of the Action Plan Process:</td>
<td></td>
</tr>
<tr>
<td>Are the questions clear?</td>
<td>Appropriate as is</td>
</tr>
<tr>
<td></td>
<td>Needs some changes</td>
</tr>
<tr>
<td></td>
<td>Needs major changes</td>
</tr>
<tr>
<td>2. Ease of completion: Is the form easy for a teacher to complete?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Appropriate as is</td>
</tr>
<tr>
<td></td>
<td>Needs some changes</td>
</tr>
<tr>
<td></td>
<td>Needs major changes</td>
</tr>
<tr>
<td>3. Importance of review process: Do you see the Review section (III) as an important way to monitor the Action Plan process?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Extremely/very important</td>
</tr>
<tr>
<td></td>
<td>Somewhat important</td>
</tr>
<tr>
<td>4. Training: How much training would you need before you are comfortable with the Action Plan?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No formal training needed</td>
</tr>
<tr>
<td></td>
<td>Some formal training &amp; practice needed</td>
</tr>
<tr>
<td></td>
<td>Much training and practice needed</td>
</tr>
<tr>
<td>5. Likelihood of Use: Would you use this Action Plan form in your own setting?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Will definitely use</td>
</tr>
<tr>
<td></td>
<td>Will likely use</td>
</tr>
<tr>
<td></td>
<td>Not likely to use</td>
</tr>
</tbody>
</table>

Findings from Readability Analyses

Readability levels were computed for each part of the E-CARE to determine the tool's appropriateness for use by caregivers and study participants whose reading levels may vary. The results of these analyses are summarized in Table 4. These scores were based on the mean number of characters per word and the mean number of words per sentence for each section of the instrument. The Flesch Reading Ease score bases reading ease on a 100-point scale. The higher the score, the easier the document is to read. Scores between 60 and 70 are considered “good” on this scale (Johnson, 1998). The Flesch-Kincaid Grade Level score was used to rate the understandability of the questionnaires. Scores correspond to U.S. grade school levels, with a score of 8, for example, representing an eighth-grade reading level. Scores of 7 to 8 are considered appropriate for general adult audiences.
Table 4
Readability Analyses of E-CARE Subcomponents

<table>
<thead>
<tr>
<th>Subcomponent</th>
<th>Reading ease scorea</th>
<th>Reading grade levelb</th>
<th>M words per sentence</th>
<th>M characters per word</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rating Scale</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infant</td>
<td>64.6</td>
<td>6.0</td>
<td>7.1</td>
<td>4.6</td>
</tr>
<tr>
<td>Toddler 1</td>
<td>55.1</td>
<td>7.2</td>
<td>6.9</td>
<td>4.8</td>
</tr>
<tr>
<td>Toddler 2</td>
<td>64.6</td>
<td>6.0</td>
<td>7.3</td>
<td>4.6</td>
</tr>
<tr>
<td>Preschooler 3</td>
<td>69.4</td>
<td>5.3</td>
<td>7.0</td>
<td>4.5</td>
</tr>
<tr>
<td>Preschooler 4/5</td>
<td>70.4</td>
<td>5.3</td>
<td>7.9</td>
<td>4.4</td>
</tr>
<tr>
<td><strong>Guidelines for Use</strong></td>
<td>52.1</td>
<td>10.0</td>
<td>16.5</td>
<td>4.8</td>
</tr>
<tr>
<td><strong>Action Plan</strong></td>
<td>63.7</td>
<td>6.7</td>
<td>9.6</td>
<td>4.5</td>
</tr>
</tbody>
</table>

aBased on Flesch Reading Ease rating method, which uses a 100-point scale. Higher scores imply easier reading.

bFlesch-Kincaid Grade Level scores refer to U.S. grade school levels.

The E-CARE was revised from its original 3 levels (infant, toddler, preschooler) to the 5 age levels reflected in the readability analyses of the Rating Scale, based on typical age groupings in early care settings within the partnership counties.

The results of the analyses reported in Table 4 indicated that for all age levels, the readability of the Rating section of the E-CARE met or exceeded the recommended reading ease and grade level criteria. The readability analysis of the Action Plan also resulted in scores well within the acceptable ranges. The reading ease and grade level scores for the Guidelines for Use section of the E-CARE did not meet the recommended criteria, although it should be noted that the 10th-grade reading level was still below the required educational level for caregivers in Florida, which is a high school diploma or the equivalent.

**Methodology:**

**Study 2**

**Beta Testing Methodology**

**Site Selection**

During the months of March and April of 2002 the first author, who served as the Hub’s Project Coordinator, attended a series of infant/toddler training workshops sponsored by the ELC-Polk. The workshops afforded an opportunity to establish connections with local child care providers from diverse settings, thereby offering a clearer understanding of service needs and issues in that district. The connections built with these participating providers proved to be vital in generating potential site selections. Input regarding specific sites was requested from all members of the leadership and implementation teams, and from Polk County’s central agency for early care and education, Youth and Family Alternatives. The criteria for site selection included: (1)
availability of children in the target age range (infants/toddlers); (2) type of program as required for the Hubs project (Head Start, faith-based, public school-affiliated, subsidized early care); (3) supportiveness of staff and organizational climate; and (4) accessibility of the location for traveling researchers.

Several meetings were conducted during which the site selection list was refined and finalized, and a plan for contacting the representatives from the four beta-test sites was established. Components of a script to be used in contacting potential sites were discussed. A decision was made to invite the site representatives to participate in a general information session to review the project goals and clarify the role and contributions of participating sites. Within a few weeks of the information-sharing session, all four beta-test sites were visited with appropriate follow-up procedures that established a system for direct contact.

Focus Group Sessions

Once the relationship with the four test sites was established, the next phase in the tool development process involved focus group sessions with the study participants. The purpose of these sessions was to gain feedback on the E-CARE both as a tool and as a process following a simulation activity using the tool. Five separate in-depth focus group sessions with child care directors and child care teachers \( (n = 93) \) were held. A sixth session was held to obtain specific feedback from early childhood trainers on the revisions to the E-CARE and on the training needs of the population they serve \( (n = 8) \).

Selection, Qualifications, and Training of Individual Teachers

Each site determined its level of participation based on conditions unique to each setting. The public school system-affiliated program required all teachers to participate in the use of the E-CARE. The number of individual teachers participating at each of the other sites varied, with a minimum of four teachers participating at each site.

The credentials of the teachers across settings also varied, from settings where the norm was a high school degree plus the minimum 40 additional hours of training required by local licensing to settings where some teachers had an associate's degree or a Child Development Associate (CDA) credential. Individual and small-group training sessions were arranged for the participating teachers at their work sites during the regular workday or immediately after.

Implementation and Follow-up Support

Follow-up support was provided most intensively at the point at which each site began the field test of the E-CARE: the beginning of the traditional academic year for some sites, and mid-fall for other sites whose start dates varied (e.g., the Migrant Head Start Program teachers did not return to their duties until the program resumed in November of 2003). The project team made
site visits subsequently to follow up individually with the teachers. Phone support was also provided at the initial stages. Beyond the initial period, the sites used the E-CARE as they saw fit, with minimal direct contact from project personnel.

**Findings:**

*Beta Testing Findings*

The feedback from the focus group sessions provided support for the content validity of the developmental indicators of adjustment difficulties that comprise the E-CARE rating. Focus group participants consistently identified similar constructs as indicators of adjustment or maladjustment to a new care setting. The feedback revealed that the three age-level groupings for the E-CARE system (Infants, Toddlers, Preschoolers) did not always match the actual grouping levels at some sites, which some participants found confusing. This led to the subsequent redesign of the instrument into five separate age ranges (Infant, Toddler 1, Toddler 2, Preschooler 3, Preschooler 4/5). The feedback also provided further support for completing the initial rating 9 to 10 days after the child's transition, rather than after 4 to 5 days.

Some participants noted some redundancy and lack of specificity in wording in the E-CARE, potentially leading to multiple interpretations. The directors in particular stressed that the tool needed to be self-explanatory, with its purpose clearly stated. The directors and trainers both emphasized that the action plan process needed to be very explicit, as this is an area where many early care teachers have limited or no formal experience.

Overall the participants considered the strengths of the E-CARE to be its simplicity and its thoroughness of coverage of key issues. The format was considered an asset, with the rating, background information form, action plan, and follow-up all part of one system. They noted that the E-CARE approach had the potential of bringing together the key players that could support a child during transitions in care.

While some focus group members considered the inclusion of parents/guardians as part of the E-CARE process an asset, others were surprised at their inclusion. Some reported that in their setting they had limited direct contact with parents or that they did not feel comfortable discussing adjustment concerns with them, especially when some of these concerns were chronicled in writing and required the parent to sign off on the action plan. Acknowledging the reality of the practices in many settings but also recognizing the critical importance of encouraging partnerships with parents, subsequent revisions of the action plan provided a space to record the date the plan was reviewed with the parent/guardian rather than a space for the parent's signature.
For some participants the inclusion of items reflecting a strengths-based approach to understanding children’s needs was unexpected. In particular, some teachers found it remarkable that sections of the action plan invite the teacher to focus on strengths as well as challenges in formulating the plan, given that the issue was concerns about a child’s adjustment. The ecological focus, which guides the individual completing the E-CARE Action Plan to consider not just the child’s strengths and challenges but also those of the home/family and the care setting/teacher, was considered novel by some of the focus group participants. Both the strengths-based and ecological approaches were areas that required additional discussion during the follow-up sessions.

Beyond providing important data for the tool-refinement process, participants contributed insights about the sites and their staffs that proved important in developing partnerships and individualizing the subsequent training and follow-up. Most salient was the variability in the four sites in terms of populations served, practices already in place to support children during transitions, leadership style of the managers, organizational culture, and requirements sometimes imposed by oversight agencies or institutional affiliates. The focus group sessions also served as a means for the university researchers to develop relationships with the teachers and directors to better understand some of their own challenges as early childhood educators as well as the challenges faced by the children and families they serve. Concerns were expressed about the limited time some teachers have for planning and how this infringes on their personal family time, about the amount of paperwork already required (by the Head Start program, for example), and the need for training, especially for teachers who are less experienced. The participants noted that these factors would impact teachers’ implementation of the E-CARE.

**Final Outcomes**

*The E-CARE as a Tool and a Process*

The E-CARE is a criterion-referenced tool intended to be used by practitioners for the sole purpose of supporting the smooth adaptation of young children to non-parental care environments. It combines observation-based assessment with practical guidelines and steps to develop a concrete action plan to intervene with identified adjustment difficulties. It is intended not as an externally mandated accountability tool but as a setting-driven, voluntary-use instrument for centers and caregiving professionals who have come to develop a deep conviction that it is important to foster smooth psychological adjustment to and across early settings for every child during critical transitions in the earliest years of development (Fernandez & Marfo, 2005).

In this sense, the E-CARE is intended as a transformative tool to prepare child care professionals and administrators to routinely view prevention, early identification, and intervention as core components of their approach to working with children and families. The
ultimate goal of the *E-CARE*, then, is to enable caregivers to detect potential areas of adjustment difficulty and to work with families and significant other professionals (e.g., assistant teachers, age-group team leaders, intervention staff, and center administrators) to intervene before early adjustment problems adversely impact the child’s ability to benefit from developmental and learning experiences offered in the child care setting (Fernandez & Marfo, 2005).

The *E-CARE* consists of a rating scale linked to an action planning process. It is intended to bring awareness on the part of care providers to key areas (such as feeding, rest time, and response to others and to care routines) that can be disrupted during transitions to a new setting. There are five versions of the instrument, each corresponding to a different age level from birth to age 5. All five levels have four key components in common: the rating scale, the decision rule, the background information form, and the action plan. The rating scale at each level has 10 parallel items, with modifications in wording and content to reflect age-appropriate differences in children’s behavior and skills.

The usefulness of the tool is compromised if a user only completes the ratings and tallies the numerical scores. The decision rule helps raters understand what the scores mean and when to consider developing a plan for intervention, while allowing for use of their knowledge of children and their professional judgment to determine the need for an action plan. To help caregivers systematically consider important ecological variables that may affect a child’s adjustment during transitions, the background information form guides the rater to consider the child’s developmental history, family and home context, and early care history as factors that may influence the child’s adjustment or the intervention process. After completing the rating and background information form, the rater is then ready to prepare the action plan, a critical component of the *E-CARE* system.

The action planning process involves specific steps to consider in helping the child overcome the identified adjustment problems. The planning is intended to be a collaborative effort by the caregiver, the parent, and other individuals involved with supporting the child’s development. The user is guided to identify and capitalize on strengths and challenges for the child, the family, and the caregivers. It is recommended that the rater, a parent/guardian, and the center director/designee review the completed plan before proceeding with implementation.

Opportunities Afforded by the Project

One of the distinguishing characteristics of the Tampa Bay Early Learning Hub is that the project found a home in the Center for Research on Children’s Development and Learning (CRCDL), a unit of the College of Education dedicated to advancing key elements of USF’s mission and strategic goals, particularly those pertaining to excellence in research, graduate research education, and community engagement. This is particularly noteworthy because at the inception of the Hubs project, CRCDL was undergoing a transformation from a primarily clinical and outreach unit to a research center, with a mission very compatible with that of the project. Thus, the Hubs Pilot project came at a very auspicious time, and a synergistic relationship was forged that impacted the development of both the project and CRCDL.

The overarching goal of the Hubs Pilot was to create a collaborative structure to support school readiness practitioners to help at-risk children acquire knowledge and school readiness skills to be successful in kindergarten and beyond (Florida Institute of Education, 2001). CRCDL’s research objectives—research and development activities aimed at improving the variety of environments in which children develop and learn and the building of collaborative relationships with local and state agencies to respond to practical community problems—are very compatible with those of the Hubs Pilot project. This congruence in objectives provided rich opportunities to link and expand mutually beneficial projects. For example, CRCDL’s Lavely Lecture series focused many of its presentations during the Hubs Pilot project period on issues related to school readiness and early development. Regional and statewide Hubs partners were invited and participated in the lectures, which were supported in part by Hubs Pilot funding.

While the Hubs Pilot had clear guidelines for implementation, it also allowed enough latitude to design projects that were responsive to the unique needs and changing circumstances of each Hub. This flexibility allowed the Tampa Bay Early Learning Hub to merge CRCDL’s fledgling tool development into the Hubs Pilot when funding cuts and uncertainties about continuation of the project necessitated modifications to the original, larger-scale plans.

The support for building partnerships with the ELC-Polk was another significant opportunity afforded by the Hubs Pilot. New partnerships and connections were formed, and these relationships provided the opportunity to study more closely the process, benefits, and challenges of building and maintaining university-community partnerships. At various points the Tampa Bay Early Learning Hub’s partners explored projects beyond Hubs, and applied for a major grant that, although not funded, sowed the seeds for future expansion of collaboration. The Hubs Pilot, in fact, provided the impetus and start-up funds to explore other collaborative research possibilities.

The network of relationships also extended beyond the regional partners to the members of the statewide Hubs Pilot group. The connections formed during the project have led to the development of collegial support systems that will extend beyond the Hubs Pilot. Through those
connections, a natural dissemination process for the tools and strategies developed through the Hubs Pilot is taking place. For example, at least two other Hubs have expressed an interest in using the E-CARE in their regions, and one Hub’s Liaison has already introduced the tool to her partner sites. This natural cross-pollination of ideas, tools, and strategies has been a great benefit of the Hubs Pilot. In many ways, we have become a true learning community.

**Challenges and Their Silver Linings**

Notwithstanding the many opportunities afforded by the Hubs Pilot, a number of significant challenges were encountered along the way. Some of the challenges were at the global level; others were more specific to the particular tasks undertaken by the Tampa Bay Early Learning Hub.

At a global level, the uncertainty about the project’s continuation from year to year and the reduction in funding significantly affected plans. It was difficult to undertake initiatives across funding years, not knowing whether there would be resources to fully support the plans. This led to the narrowing of the focus of this Hub’s goals, limiting, to some degree, the extent to which more extensive follow-up support could be reasonably provided to the research sites. It also made it more challenging to recruit highly qualified research assistants, which needs to be done well in advance of the start of a new academic year. Had the regional project not been based at a center with some resources to support continuity of research assistants while Hubs Pilot funding was in an indeterminate state, the situation would have been even more precarious.

Beyond those global challenges, the first major barrier that the USF Hub had to overcome was finding a coalition partner. The unexpected decision by the Early Learning Coalition of Hillsborough County to decline to participate due to other priorities caused significant delays in project start-up. Fortunately this initial setback was offset when a highly functional and productive partnership was established with the ELC-Polk.

The realities of the early childhood field led to a number of challenges during the field-testing of the E-CARE, as discussed in the findings of the beta testing. Despite concerted efforts made by all sites to collaborate on the project to the extent that their organizational structures and processes allowed, progress on the project was hampered by a range of factors: staff turnover, variability in leadership, limited time allotted for training during the teachers’ work day, difficulty in maintaining consistent communication with some sites, and the many other competing priorities in early care settings. The project navigated these roadblocks with deep conviction about the importance of conducting such work in contexts that reflect the real-world challenges early care settings face.

**Anticipated and Unanticipated Outcomes**

Some of the challenges common to the early childhood field (e.g., limited planning time) were anticipated and confirmed by the focus group findings and during the actual tool implementation
process in the beta-testing phase. However, some unanticipated findings surfaced, four of which were particularly salient. Two stem from the large-scale field evaluation survey carried out to assess the usability, clarity, and importance of the action planning process, and the training needed to implement such plans. The other two unanticipated findings came from the focus group sessions.

Given that the E-CARE on the surface appears to be a relatively simple and brief tool and that training implies a commitment of time and energy, it is noteworthy that 7 out of 10 respondents in the large-scale survey of over 250 early care professionals perceived that at least some formal training and practice were needed before using the action planning process. A number of indications in the subsequent parts of the study suggested that teachers were interested in more fully understanding the logic and procedures for the collaborative problem-solving approach that underlies the action plan. The likelihood that the tool would be considered for use was also a major unknown for this project. It was therefore interesting to find that in a large sample of unrelated professionals, about 9 out of 10 indicated that they would likely use the tool. This suggests that the survey group perceived the tool as potentially useful to the field.

From the focus group sessions, the two unanticipated findings were the strong reactions that some of the participants had to the use of a strengths-based approach in action planning and the inclusion of parents as active partners in the process. While a focus on strengths and active parent involvement has come to be part of developmentally appropriate practices in the early childhood field, these findings suggest that these principles are not always fully understood or adopted at the grassroots level.

**Implications for Future Research and Practice**

Many lessons were learned and relearned about critical factors that impact the success of research and development efforts in early care settings. The importance of considering contextual factors as critical variables in planning research activities and in selecting sites cannot be underestimated. These include the leadership style and effectiveness of the site administration; the philosophy, maturity, longevity, and climate of the organization; socio-economic pressures; and cultural nuances. Though evidence showed that all these factors may play a role in the outcomes of a project, their impact is often difficult to measure objectively. The realities of early care environments certainly can make research endeavors logistically challenging. However, it is important to recognize that these challenges are part and parcel of the early care experience and are not just issues affecting research and development efforts; they affect the learning and development of the children and staff.

With the E-CARE tool-development process completed, the stage is set for using the instrument in descriptive research studies to understand how often each of the 10 indicators of adjustment difficulty occurs in children with different developmental, social, and family
characteristics (e.g., age, gender, ethnocultural background, socioeconomic status). This research study also will focus on assessing the extent to which the presence of adjustment difficulties may vary based on differences among child care centers (e.g., caregiver-child ratio, age range served, caregiver qualifications, quality of the socioemotional environment, organizational culture/values). Such descriptive research study is important in its own right, but it also could serve as a foundation for developing a more extensive tool to be validated for use in longitudinal studies.

The use of the E-CARE as a research tool may shed light on how best to identify and intervene early with young children who are at significant risk for socio-emotional and behavioral adjustment problems during transitions in child care. The E-CARE has the potential to enhance the quality of child care practice when used as a tool for identification and intervention with children who have reacted strongly to disruption in the continuity of their care. By supporting seamless transitions and optimal continuity in the lives of young children, it also could lead to systems change by impacting the way that practitioners understand and respond to adjustment difficulties in child care.
References


## Appendix

### Tampa Bay Early Learning Hub Partnership Members

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**NOTE:** The Enhancements Committee of the Early Learning Coalition of Polk County served as this Hub’s Implementation Team. Individuals listed below include Implementation Committee members over the entire span of the Hubs Project.

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**Acknowledgments**

The authors extend their appreciation to the collaborating agencies and practitioner colleagues for their cooperation and support in the development of the tool described in this paper: the Early Learning Coalition of Polk County, Coordinated Child Care of Pinellas, Inc. and its Pinellas Pre-K Work Group, and the directors and staff of the early care and education centers in Polk and Pinellas Counties and at the University of South Florida. The many contributions to the development of the tool by Stephanie Granek, E-CARE co-author and colleague, are acknowledged with gratitude. The authors are also grateful to ZERO TO THREE and especially to its Leadership Development Initiative (LDI) for feedback and support received with the tool development process during the first author's LDI Solnit Fellowship in 2003-2004.
Chapter 9

Implementation of the Mind in the Making Modules: The University of West Florida and the Santa Rosa County Early Learning Coalition

West Florida Regional Readiness Hub

K. Craig Jones and Renee Alcock Cobb
The purpose of this project was to examine teacher/caregiver participation in a specific professional development tool. Thirty teacher/caregivers participated in a pretest-posttest study in two different settings. The program included *Mind in the Making* modules (Galinsky, 1993). Measures included a 25-item questionnaire developed to measure the content knowledge of participants, a classroom environment scale (ITERS/ECERS), and the impact of caregiver/child interaction as measured by the Arnett Caregiver Interaction Scale.

Results indicated a significant increase in the knowledge base of participants in both settings, with a change from 74% to 86% in one setting and from 24% to 81% in the second setting. Classroom environmental scores were significantly higher compared to nonparticipating classrooms. In the area of child/caregiver interaction, significant positive change was noted on three of the five subscales, including positive interactions, cognitive interactions, and decreased punitive interactions. The permissiveness subscale showed no change. This project provided promising evidence that *Mind in the Making* modules can help improve caregivers’ knowledge of and interactions with children, educational aspirations, and environmental indicators of quality programming.
Introduction

Through a series of meetings with representatives of the early learning coalitions to determine specific areas of need, a partnership was formed between the University of West Florida and the Santa Rosa County Early Learning Coalition to pilot the current project. While the development of literacy was an overall goal, it was determined that there were two specific, related needs in the local preschool community. First was the need to produce children who could deal with difficulty and still be successful (resilient children). Second was improving the interactions between children and teacher/caregivers, especially in the area of behavior management.

A teacher development program entitled Mind in the Making (MITM; Galinsky, 1993), was identified for use in this study. The MITM modules are a series of twelve workshops designed for direct service providers. The content of the modules and the processes integrated in the workshops are based on both current developmental research studies (Gopnik & Meltzoff, 1997; Gunnar, Larson, Herstgaard, Harris, & Brodersen, 1992; Howes, Phillipsen, & Peisner-Feinberg, 2000; Kagan, 1997; Lieberman, 1996; Meltzoff, 1995; Shonkoff, Gunnar, Greenough, Emde, & Massinga, 2001; Stern, 1995; Tronick, 1989) and adult learning principles (Bransford, Donovan, & Pellegrino, 2000; Brookfield, 1991; Cranton, 1996).

Statement of the Problem

In order for young children to be ready for school and ready to learn, they must develop literacy skills and the ability to control their behavior. In addition, they must be able to face challenges and overcome obstacles to their learning in a positive way (resiliency). It is clear that the connection between teachers/caregivers and children is central to all learning of the young child (Kagan, 1997). These relationships provide the foundation for academic learning (literacy) and the development of resiliency characteristics in young children. While most teacher training focuses on the procedural and instructional aspects of the classroom, the MITM modules develop the knowledge base, interpersonal, and intrapersonal aspects of the teacher/learner relationship. The purpose of this project was to determine the effect of the MITM modules on the classrooms and classroom behaviors of participants. Three specific research questions were addressed.

A. What impact does participation in the MITM modules have on teacher knowledge?

B. What impact does participation in the MITM modules have on the quality of the classroom environment?

C. What impact does participation in the MITM modules have on teacher/child interactions?
It is clear that in today's schools, students must become literate in order to do well. The transition from home to school often indicates a mismatch between the child and the teacher's expectations. According to Bowman (1994), the vast majority of 5-year-olds have learned the social norms, rules, and values of the home community. Mastering those aspects of this "new" culture (school) can test the individual child's resiliency and affects academic outcomes. Taylor (1991) points out that the child's orientation upon entry to school can serve as a protective or a risk factor, depending on the reactions of the teachers in the school. Child success is more likely to occur as a result of a match between both the social and academic expectations of the home and the school. A clear link exists between these social/cultural matches and academic success. Meisels, Dorfman, and Steele (1992) indicated that children are not developmentally delayed and have no less ability or potential just because of a behavioral mismatch between home and school. However, the school and teacher's response to the mismatch can lead to practices that compromise the child's development of skills. In these cases, the mismatch may actually limit or delay the acquisition of literacy. According to Krovetz (1999), keys to a school environment to develop resilient children are: 1) caring attitudes, 2) high expectations, 3) purposeful support, and 4) meaningful student participation. This environment develops resilient students who are able to overcome the adversities they face in order to do well in school.

According to the U.S. Department of Education, eight indicators of social and emotional maturity are observable in children upon school entry. These indicators relate directly to the development of resilience and can be developed based on each individual child's developmental pace. These are: 1) independence, 2) motivation, 3) curiosity, 4) persistence, 5) cooperation, 6) self-control, 7) empathy, and 8) confidence. Fostering these developmental areas through nurturing and planned environmental influences plays a major role in school readiness and the prospect of success in school. Krovetz (1999) viewed these characteristics as four categories and described elements of schools that serve to promote resilience and thus school success. The common characteristics of children were: 1) social competence, 2) problem-solving skills, 3) autonomy, and 4) a sense of the future. Associated aspects of the school culture are: 1) a caring school culture gives students a sense of belonging, promotes cooperation, celebrates successes, and ensures that leaders spend lots of positive time with staff and students; 2) a caring school's curriculum focuses on work that is meaningful to the students, respects multicultural student perspectives, and guarantees student input in curriculum, instruction, and assessment; 3) a school with high expectations and purposeful support has a curricula based on interdisciplinary, thematic, project-based work and instruction based on heterogeneous grouping, small group or independent work and higher-order thinking skills; and 4) a school with meaningful student participation has a culture where students help each other, and class forums are held to gather student input; all student groups are included in the daily life of the school, and a large percentage of students participate in and lead a diverse range of activities (Krovetz).
To build this climate and to foster the development of resiliency and literacy, it is necessary for teachers to act and react to children in ways that allow children to feel that they are cared for, believed in, supported, and capable of participation (Krovetz, 1999). It is clear that the relationships and interactions between children and teacher/caregivers are key to achieving positive child outcomes. The current project focused on teachers' ability to interact in ways to establish relationships with learners to achieve the desired outcome of literate children with resiliency characteristics by improving teacher/caregivers' knowledge and skill as it relates to children's social, emotional, and intellectual development.

**Methodology**

The project consisted of two phases. The first phase was conducting a series of train-the-facilitator workshops in order to credential the workshop facilitators (community college faculty) through the Family and Work Institute. The second phase implemented the MITM modules in classes at two community colleges and conducted data collection in identified classrooms.

**Train-the-Facilitator Workshops**

Two train-the-facilitator workshops were provided. The first workshop covered Modules 1-4 (n = 19); the second workshop covered Modules 5-12 (n = 17). The workshops addressed the content of the modules and stressed the skills of facilitation necessary for implementation.

**Direct Service Participants**

During Spring 2005, 30 caregivers participated in the MITM 3 credit-hour course taught in two settings. Because of staff turnover and/or changes in teacher assignments (e.g., one teacher was assigned to a classroom at the start of the course and assigned to the kitchen at the end of the course, which prevented the collection of a post assessment), pre/post data were collected for only 17 of the 21 at Setting 1 and 7 of the 9 at Setting 2.

**Setting 1 Pilot**

Twenty-one caregivers from the local Early Learning Coalition Quality Child Care Initiatives participated in the MITM course taught during the Spring 2005 semester at Setting 1. Facilitators (instructors) of the course and mentors provided additional support to the directors and teachers they worked with by participating in class and reinforcing the course objectives through their work in the centers.

**Setting 2 Pilot**

Nine caregivers out of a total class enrollment of 18 were identified and supported through tuition payment to participate in the MITM course taught during the Spring 2005 semester at Setting 2. The course also included instruction on different early childhood curricula. The
participants were recruited from five child care centers in the small urban area. Due to turnover, data were collected on a total of seven participants.

**Description of the Modules**

The MITM modules are one aspect of the Families and Work Institute's *Mind in the Making* campaign begun in 1994 with the publication *Starting Points* (Carnegie Corporation, 1994). The research-based modules feature adult learning theory, and include interactive activities to help translate the research into practical applications. A major premise of MITM is the integration between social, emotional, and intellectual development. The modules are also unique in their strong emphasis on relationships and the process of learning. Each of the modules is listed:

- Teachers Make a Difference
- Relationships Are Essential
- How Learning Begins
- Social, Emotional and Intellectual Together
- Building Confidence and Competence
- Understanding Temperament
- Learning to Read Others' Thoughts and Feelings
- Encouraging Curiosity and Problem Solving
- Using Language to Make Meaning of Experience
- Memory and Learning
- Stress and Learning
- Creating Communities of Learners

**Evaluation Measures**

The evaluation examined three potential levels of impact from MITM: (1) impact upon the teachers/caregivers, (2) impact upon the classroom structure and environment, and (3) impact upon caregiver/child interactions. The effectiveness was evaluated through four methods.

First, the impact upon the teachers was measured through a 25-question pre- and posttest developed to measure the content knowledge of participants. Second, a course feedback sheet was developed for participants to report their perceptions of the MITM course and their own learning. Third, the Infant/Toddler Environmental Rating Scale: (ITERS; Harms, Clifford, & Cryer, 1998), and the Early Childhood Environment Rating Scale: (ECERS; Harms, Clifford, & Cryer, 2003), were used pre- and posttest to evaluate the impact upon the structural aspects of care provided in the classroom environment. The instruments, ITERS and ECERS, provided an overall picture of the surroundings that have been created for the children and adults who share an early childhood
setting. The ECERS consisted of 43 items that assessed the quality of the early childhood environment, including use of space, materials, and experiences to enhance children’s development, daily schedule, and supervision. This 43-item scale covered seven categories, with each item ranked from 1 to 7. A ranking of 1 described inadequate conditions, while a ranking of 7 described excellent conditions. The ITERS used the same format but was designed for infant and toddler environments.

Finally, the impact of caregiver/child interaction was measured using the Arnett Caregiver Interaction Scale (Arnett, 1989) pre- and post-participation. The Arnett scale is a rating scale of teacher behavior toward children in the class. The 26-item scale addressed four factors: positive interaction, punitiveness, permissiveness, and detachment. For each item, the observer rated the extent to which each statement is characteristic of the caregiver on a 4-point scale (1 = not at all, 2 = somewhat, 3 = quite a bit, 4 = very much). Higher scores indicated a more sensitive, responsive teacher who encouraged children’s independent and self-help skills, and avoided punishment and detachment.

Findings

MITM had a positive impact upon teachers/caregivers. First, a 25-question multiple-choice test was used to measure content knowledge. Of the 21 participants in Setting 1, post-data were not available for four participants. One caregiver left her job unexpectedly; one was employed at a center that withdrew; and two caregivers were reassigned to work outside of the classroom. Staff turnover also prevented the collection of complete data for 39 of the 56 Setting 1 caregivers who did not participate in the MITM course. Of the nine Setting 2 participants, data were unavailable for two due to their nonparticipation in the class.

ITERS/ECERS data were collected during this time period from a total of 80 caregivers—24 of whom participated in the MITM course and 56 of whom did not participate in the course. Data are presented for this total group as a function of a total pretest average and a total posttest average. In addition, data are presented for the sub-sample of 34 with complete pre-/post-data (17 who participated and 17 who did not participate in the MITM course).

Research Question 1

The average pretest score for the caregivers in Setting 1 was 24%, and for the Setting 2 caregivers the average pretest score was 74%. Despite the initial disparity of content knowledge, the average posttest score for the Setting 1 participants was 81% and 86% for the Setting 2 participants. Thus, with an increase of 57% in the Setting 1 group and 12% in the Setting 2 group, content knowledge clearly increased during the course, especially for those entering with a lesser knowledge base.
Secondly, a course feedback sheet was developed for participants to report their perceptions of the MITM course and their own learning. These sheets were completed at the end of the training and analyzed to determine the participants' degree of satisfaction with the course. Ten questions asked how MITM changed aspects of their behavior, teaching, feelings, and future plans. Participants rated questions with “very much,” “quite a bit,” “somewhat,” or “not at all.” When asked:

- “Has Mind in the Making increased what you know about children and teaching?” All (100%) of the participants in Setting 1 responded “very much.” Of the Setting 2 class, 71% responded “very much,” 14% “somewhat,” and 14% “quite a bit.”
- “Has Mind in the Making changed your teaching?” Seventy-one percent of both groups responded “very much.”
- “Has Mind in the Making changed your interactions with children?” Seventy-one percent of the Setting 1 class responded “very much,” 12% “somewhat,” 12% “quite a bit,” and only 6% “not-at-all.” Of the Setting 2 class, 57% responded “very much,” 29% “somewhat,” and 14% had no response.
- “Do you think it would be helpful for other teachers to experience the modules?” One hundred percent of the Setting 1 class responded “very much.” Of the Setting 2 class, 67% responded “very much,” 17% “quite a bit,” and 17% had no response.
- “How has Mind in the Making changed how you think/feel about your own learning?” Seventy-three percent of the Setting 1 class responded “very much,” 13% “somewhat,” 7% “quite a bit,” and only 7% “not at all.” Of the Setting 2 class, 57% responded “very much,” 29% “quite a bit,” and 14% had no response.
- “Were the learning groups beneficial? Will you stay connected to your learning partner?” Eighty-eight percent of the Setting 1 group responded “very much” and 12% “quite a bit.” Of the Setting 2 class, 57% responded “very much” and 43% “quite a bit.”
- “Will you continue to take college credit classes?” Eighty-eight percent of the Setting 1 group responded “very much,” 6% “somewhat,” and 6% “quite a bit.” This is particularly exciting given that most of these caregivers had never attended college. Of the Setting 2 class, 71% responded “very much,” 14% “somewhat,” and 14% “not at all.”

**Research Question 2**

ITERS-R (Harms, Clifford, & Cryer, 2003) and ECERS-R (Harms, Clifford, and Cryer, 1998) were used to evaluate the structural aspects of care provided in the classrooms of Setting 1 and Setting 2 before the course and within 6 weeks of the completion of the course. In the first set of analyses, all available pre- and post-data were aggregated so as to best represent the effect of training across all caregivers and centers (includes both ITERS and ECERS scores). Because of staff turnover at many of the child care sites, a large number of participants were not present at both pre-treatment and post-treatment intervals, and as a consequence, our data for these individuals
are incomplete. Although we cannot use this incomplete data to study how groups of individuals change over time, we can use it to examine, in a more general way, whether participants differed between the pre-treatment interval and the post-treatment interval. Such an examination is useful for two reasons. First, it allows for inclusion of a larger number of participants (n = 80) and secondly, it more closely reflects the reality of most child care settings—where staff turnover is generally high and new hiring occurs on an ongoing basis.

Table 1 and Figure 1 present an analysis of the overall average for ITERS or ECERS and suggest a difference between pre-treatment and post-treatment intervals for both MITM training participants and non-MITM participants.

**Table 1**

*All Programs: Overall Averages for ITERS/ECERS at Pre- and Post-training*

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As illustrated in Figure 1, caregivers who participated in MITM had large increases in ITERS/ECERS scores (3.80 to 4.71), compared to smaller increases for caregivers who did not participate in the training (3.97 to 4.40).
Figure 1. All programs: Overall averages for ITERS/ECERS at pre-training and post-training.

It is noteworthy that the effect size calculated for the difference among the MITM training participants is within a range that is generally considered large for social sciences research (Cohen’s $d = 0.87$) (Hartmann & Petzel, 2005), but the effect size calculated for the difference among the non-MITM participants is within a range that is only considered medium for social sciences research (Cohen’s $d = 0.42$). This discrepancy suggests that participation in MITM training augmented the gains that occurred between pre-treatment and post-treatment intervals. This is especially notable considering that the non-MITM scores were higher at the outset, and all the non-MITM caregivers received some intensity of mentoring and facilities enhancements.

An analysis of ITERS/ECERS scores overall and for subscales was conducted for participants with complete pre/post data. These data are presented in Figures 2-4. Attrition prevented pre/post-data collection from the total pool of caregivers. The following analyses are presented for the sub-sample of 34 caregivers with complete pre/post-data (17 who participated and 17 who did not participate in the MITM course). Because of the small sample, ITERS and ECERS scores were aggregated.

Scores were compared before and after caregivers participated in the MITM college course (Figure 2). Both the MITM participants and the non-participants improved on the ITERS/ECERS scores, although the MITM group had greater improvement overall. However, the improvements were not statistically significant, which is at least somewhat attributable to the small sample size.
Figure 2. ITERS/ECERS complete scores (subsample participant/non-participant pre/post).

The MITM group showed pre- to post-improvement on all the ITERS-ECERS scales; the non-MITM groups did not show any improvement on Personal Care and Activities. However, the pre-vs. post-scores on the ITERS-ECERS comparisons between the MITM and non-MITM groups were statistically significant in favor of MITM only for the Activities scale (Figure 3). The difference was striking, as the non-MITM group showed no improvement (effect size = 0), while the effect size for the MITM group was large (.94), indicating a difference in the posttest means of the two groups equal to about one standard deviation.
Figure 3. ITERS/ECERS Activities subscale.

Figure 4. ITERS/ECERS Program Structure subscale.
Although only the Activities subscale was significantly higher in favor of MITM by the conventional level of significance (.05), the differences on the Program Structure subscale (Figure 4 above) approached significance (.10), as did the overall score (.08). These $p$-values are conservative, as a case could be made for using one-tailed tests based on the a priori hypothesis that MITM posttest scores would be higher. If this argument is accepted, then the difference in the program structure subscale would be at the .05 level, and the difference in overall score would be at the .04 level.

Examining the pre- and post-data in another way, the MITM group had a larger effect size on seven of the eight comparisons (all but space and furnishings that is only tangentially related to MITM). The probability of that outcome is minimal at .008. The major limitation of all of these comparisons is the small sample sizes for both groups. If the pre- and post-differences and associated standard deviations were to remain the same and the sample sizes doubled, it is highly likely that all of the MITM vs. non-MITM comparisons would be statistically significant in favor of MITM.

**Research Question 3**

The Arnett Caregiver Interaction Scale (CIS; Arnett, 1989) was used to evaluate the quality of the caregiver/child interactions. The CIS is a 35-item measure of caregiver interactive qualities. It consists of five subscales: positive interaction, punitive interaction, permissive interaction, detached interaction, and cognitive interactions. Scales range from “not at all” to “somewhat” to “quite a bit” to “very much.” Ratings from individual items from the CIS were combined to yield total scores for scales that characterize the participants' interactions with children.

Two analyses were conducted on the CIS data. First, we looked at the pre- and post-CIS for the 30 caregivers who participated in MITM. Participants were rated with the CIS before and after receiving training (mean duration between assessments: 17 months, standard deviation: 7 months). It was administered pre- and posttest to caregivers participating in the MITM training, which was held Spring Semester 2005 (February-May). In Setting 1 the pre-CIS was administered in the Fall 2004 and the post-data were collected May/June/July 2005. In Setting 2, pre-CIS data were collected in January 2005 and post-data in May 2005. A total of 24 complete pre- and post-data sets were available for MITM participants.

Participation in MITM suggests an impact upon the quality of caregiver interactions as measured by the CIS. MITM caregivers made significant improvements from pre- to posttest on three subscales. In positive interaction, scores improved from a mean of 29.6 to 33.6. Cognitive interaction went up from a mean of 21 to 26.6. Punitive interaction decreased from a mean of 9.4 to 8.5, and detached interaction went down from a mean of 5.4 to 5.1. Permissiveness stayed the same with a mean of 7.5.
Limitations

1. Participants in the MITM training were self-selected. Because participants were not randomly assigned to either the MITM or non-MITM group, we cannot be certain that these groups were sufficiently similar to serve as good comparisons for each other. Analyses of pre-treatment data (from the CIS and ITERS/ECERS) did not detect any differences between these groups, prior to treatment. This gave some confidence that the groups were comparable on the main measures used in the study. However, the possibility that other variables, such as age, motivation, education, and years of experience differed across these two groups cannot be ruled out. Future research can include the collection of these data, so as to better control for a potentially confounding effect.

2. Staff turnover was high, especially for child care centers that were not participating in MITM training. Attrition, particularly differential attrition across treatment groups, is a vexing problem for clinical research. It is possible, even likely, that the less motivated and/or competent members of the non-MITM group dropped out at a higher rate than their more motivated and competent colleagues. That would lead the non-MITM group to appear to be improving over time even in the absence of a strong effect of treatment. Future research will include strategies to retain participants, and when this is not possible, to gather short-run post-treatment data on participants before they drop out of treatment.

3. Some of the Setting 1 child care providers received mentoring instead of or in addition to MITM training. This overlap of training may have confounded the treatment effects of MITM by making the MITM and non-MITM groups (at least in the Setting 1 area) appear more similar to one another. Future research, with larger samples of participants, will be better able to control for this potential confound, and may offer the opportunity to tease out the separate or interactive effects of these two types of training.

4. The CIS was administered only to the MITM sub-sample of caregivers. Future research will include strategies to gather complete data for a larger proportion of the sample.

5. Raters were not blind to the training status (MITM vs. non-MITM) of the caregivers. The potential for unconscious biases in rating is another vexing problem for clinical research. Although there is no strong evidence that bias influenced the data in this study, it cannot be entirely ruled out. Future research will include strategies to educate raters about this problem and to better ensure reliable (i.e., non-biased) responding.

6. The sample sizes varied across evaluation measures because of teacher turnover, attrition, and missing data. The sample size is too small to see significant differences.


**Discussion**

Despite the limitations of this research, promising evidence suggests that MITM modules can help improve caregivers’ knowledge of and interactions with children, educational aspirations, and the classroom environment. We have witnessed a spark ignited by MITM that inspired caregivers to go out and buy books, interact differently with children, and feel more positive about teaching. The inextricable link between social, emotional, and intellectual development embodied in the modules seems to have manifested in the improvements in caregiver interactions and sensitivity, classroom environmental factors, and in cognitive interactions. Data suggest that the greatest effects were evident in the lowest quality classrooms, which is very encouraging.

Staff turnover continues to be a significant problem for child care, not only for the lack of continuity of care for children, but for the limitations it imposes upon research. In the future, MITM will be offered in several community colleges throughout the state. The results of this pilot could be further affirmed if pre-/post-ITERS/ECERS and CIS data were collected on another cohort of caregivers.

**Implications**

It is clear that the MITM modules impacted teachers and their relationships with children in a positive way. It is anticipated that these changes will establish the framework necessary for children to develop resiliency characteristics, increased confidence, and improved competence in acquiring literacy and school readiness.

Further research on child outcomes related to changing relationships and interaction patterns is needed. Other outcomes of interest include literacy, academic performance and social competence, problem-solving skills, autonomy, and sense of the future as identified by Krovetz (1999) as characteristics of resilient children.

This *Hub* project led to the articulation of a new program for early childhood professionals. The new bachelor's degree allows up to 15 hours of coursework taken at the junior college to be applied to the university program, saving students from repeating coursework and increased costs. A high percentage of early childhood professionals participating in the MITM project made the decision to continue their educations. This well-articulated two-plus-two degree has the potential for meeting Florida's need for degreed teachers in the field of early childhood.
References


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Chapter 10

Preparing the Early Learning Workforce to Enhance Emergent Language and Literacy Outcomes for Young Children: Florida Gulf Coast University and the Early Learning Coalition of Southwest Florida

Gulf Coast Regional Readiness Hub

Charleen Olliff and Barbara Saunders

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Abstract

This study examines the use of professional development models as a tool to improve preschool children’s emergent language and literacy. A university and early learning coalition partnership identified the area’s concern for two particular needs: child outcomes in early literacy, and the adequacy of preparation of early childhood personnel around early literacy development. Researchers selected seven child care programs serving high-risk communities in Southwest Florida as beta sites. Additionally, they partnered with the United Way’s Early Reading First project to deliver staff training, one-on-one coach mentoring, and program and child assessment and evaluation. Data were collected via pre- and posttest teacher interviews, the Early Learning and Literacy Classroom Observation checklists, and Creative Curriculum assessments. Researchers were able to compare two professional development approaches for improving emergent literacy: HeadsUp! Reading and Early Reading First. Results indicated strong evidence that teacher's knowledge of emergent literacy increased; classroom practices changed to support emergent literacy; and the children in these impacted classrooms also demonstrated higher levels of emergent literacy skills.
With the advent of Florida’s landmark School Readiness legislation for children in 1999, (FS411.01), Florida Gulf Coast University (FGCU), in partnership with the Early Learning Coalition of Southwest Florida (ELC of SWFL), participated in the Hubs Pilot initiative to support Florida’s emerging school readiness system. The 5-year research and development project was intended to transform fragmented outside-the-home early care programs into a high-quality and equitable early care and learning system that closes the readiness gap and levels the playing field for at-risk children entering kindergarten. The ensuing partnership, known as the FGCU Regional Readiness Hub Implementation Team, resulted in a well-established system of ongoing communication and active involvement, with FGCU acting as the SWFL regional Hub for the surrounding SWFL Early Learning Coalitions, programs, constituents, and community partners. The focus of this partnership was to impact and support teacher knowledge, teacher practice, and child development, with primary emphasis in the domains of language and communication and emergent literacy as specified in the Florida School Readiness and Voluntary Prekindergarten Education Standards. This multi-county collegial and diverse partnership collaborated with other state initiatives such as Florida HeadsUp! Reading, Just Read, Florida!, the Lee County United Way Success By Six Early Reading First Grant, and the Florida DOE Voluntary Prekindergarten (VPK) Regional Facilitator Grant to determine and follow best practices.

As University and Regional Early Learning Coalition partners, the FGCU Hub research and development team designed and implemented a model system of professional development, tools, and strategies to address the diverse needs of a multi-faceted early learning workforce. This system will prepare Southwest Florida teachers and caregivers to enhance the quality of school readiness and voluntary prekindergarten services, with particular emphasis on improved outcomes for children birth to 5, in the domains of language and communication and emergent literacy. University and coalition team leadership of the FGCU Hub initiative brought together a broad-based state, regional, and local network of resources and constituents to the project as well as the implementation of the newly developing School Readiness legislation at the Coalition level. FGCU Education faculty joined the FGCU Hub project in the second year of the project and provided additional linkages to current national research; FGCU resources and faculty membership as implementation team members; and project advisors specializing in emergent literacy and phonological studies.

The diversity and expertise of the FGCU Hub Implementation Team and Health Service Advisory Group were critical to the success of the project. Membership included local early childhood program representatives, researchers and practitioners, specializing in the domains of emergent language and literacy, phonological awareness, and related physical attributes contributing to the auditory and visual development of at-risk preschool children. This diverse membership enabled the local Hub committee to tap into local resources, including community needs assessment and data information on school readiness children and providers; challenges in
local professional development efforts; previous research projects within the local school districts, college and university on phonological studies; and implementation team members with specific expertise in the emergent language and literacy domain.

Based on a regional professional development and community training needs assessment survey, it was determined that the FGCU Regional Readiness Hub research and development project would focus research on three early learning domains identified in the Florida School Readiness Standards and the Florida VPK Education Standards:

- **Emergent Literacy**—Phonological processing and letter knowledge (inside-out skills);
- **Language and Communication**—Oral language, vocabulary and conceptual knowledge (outside-in skills); and
- **Physical Health** as it relates to auditory and visual perception.

Research conducted in the Year 1 Gulf Coast Hub project was translated into professional development and early literacy training models and research-based classroom strategies, materials, and tools that teachers, directors and families could use to strengthen language and literacy, knowledge and dispositions, while developing sensory (auditory and visual) perception to facilitate learning.

As Florida continues to move toward an integrated, seamless, and high-quality readiness system so children may enter kindergarten well-prepared to succeed in school, the provision of high-quality professional development experiences and resources for teachers remains a critical component of this goal. In Southwest Florida, as in the rest of the nation, there is a concern that we are not adequately preparing current and future early childhood teachers and caregivers to improve their knowledge of early literacy development and skills in teaching early literacy to young children. Child outcomes in early literacy are an area of concern, especially in low-income, rural populations.

According to the 2004-2005 School Readiness Uniform Screening System (SRUSS), Florida Statewide Kindergarten Screening results using the Diagnostic Indicators of Basic Early Literacy Skills (DIBELS, n.d.) of letter naming and initial sound recognition, the counties in this region of Southwest Florida (Lee, Collier, Glades, Hendry, and Charlotte counties) show a significant percentage of children screened at kindergarten entry scoring in a moderate- to high-risk range of school readiness. In order to evaluate these results and design an effective professional development model to enhance the emergent language and literacy outcomes for young children in all settings, it was important to understand the demographics of the region.
According to the U.S. Census Bureau (2000), on average, 15% of the population in four counties in the FGCU catchment area lives below the Federal Poverty Level. In Hendry County, the average is 24%. In addition, Glades, Hendry, and migrant populations in Immokalee (Collier County) have high numbers of low-income families who live and work in rural communities and speak languages other than English, primarily Spanish. The region has a wide diversity of teachers, child care providers, and directors in our school readiness programs, representing multiple program options and possessing varying levels of professional development and language proficiency. Given these and other demographic challenges, it was critical to identify a professional development model and support system that could be delivered in both English and Spanish in multiple program options—including family child care and faith-based programs serving at-risk children—that would be available, accessible and affordable in our rural and multicultural communities and that articulated for credit in a range of professional development opportunities from entry level to postgraduate study.

This study examined the impact of the subsequent professional development model on teacher knowledge, teacher practice, and child development in emergent language and communication skills. Our guiding research questions are:

- Do teachers who participate in HeadsUp! Reading training demonstrate knowledge of the targeted concepts as evidenced by post-session surveys?

- Do teachers who participate in HeadsUp! Reading demonstrate classroom practice to support emergent literacy as evidenced by the ELLCO Literacy Environment Checklist (LEC) and the Literacy Activities Rating (LAR) Scale?

- Do children in the classrooms of the participating teachers demonstrate age-appropriate emergent literacy skills on the relative Creative Curriculum listening and speaking and reading and writing assessment subscales?

Young children learn language much as they learn other knowledge, through interactions and experiences within their environment (Piaget & Inhelder, 1969). Thus, children require experiences and materials that allow them to interact within their environment. Vygotsky (1978) further discussed the impact of social interaction on the learning and continued cognitive development of the child. He posited that children require language in order to develop cognitively. Children need labels and descriptors of objects and ideas in order to think about them. He also discussed the role of a more knowledgeable other who scaffolds the child’s learning by offering levels of assistance that allow the child to successfully perform tasks he is as yet unable to do independently. Learning experiences should offer both support and challenge.
These theories offer insight into the acquisition and development of language in young children. In order to acquire and develop vocabularies and command of oral language, children need adult models, experiences for participation and accompanying discussion, and models of mature oral language usage. These models include interactions with adults and other children and exposure to books and their decontextualized form of language.

Oral language development is an intellectual, cognitive process (Halliday, 1973; Piaget & Inhelder, 1969). Children reconstruct the language used around and with them through interactions with more sophisticated language users. Children adopt a language form because of its function. They vocalize to communicate needs, wants, and feelings. Language develops through purposeful and meaningful interactions with people (Harste, Burke, & Woodward, 1982; Neuman & Roskos, 1992; Vygotsky, 1934/1978). They gain control in the use of language conventions through their approximations and the constructive and positive feedback from more knowledgeable language users (Applebee & Langer, 1983; Wells, 1986).

It is currently accepted that children begin the process of becoming literate long before they arrive in formal educational settings. The foundation of literacy, the ability to read and write, is oral language. A child who has a more well-developed oral language capacity is far better able to acquire and develop written literacy understandings and skills than one with a paucity of oral language vocabulary and sentence structure (Hart & Risley, 1995; Sulzby, 1985). Children begin to recognize meaning in the signs and symbols around them (Goodman, 1984; Harste, Woodward, & Burke, 1984). Early on, children recognize “STOP” on traffic signs and, of course, the golden arches of McDonald’s. They become aware of different individual sounds and words through word play, rhyming games, and read-aloud experiences with rhyming texts (Sulzby). Many children also recognize that they can write using symbols, signs and letters prior to coming to school (Harste et al., 1984; Sulzby). It has been documented that through storybook reading, children have learned, and often use in their play, storybook language and behaviors (Heath, 1983; Sulzby). Children demonstrate their knowledge of syntax, story structure, and the language of books in these activities.

The environment in which children’s early literacy learning takes place is critical. The environment should be rich in literacy experiences and resources (Braunger & Lewis, 2006). A variety of authentic children’s literature should be shared frequently and repeated. Children should have opportunities to re-create stories through group retellings or dramatic play. Above all, the settings for early literacy experiences should encourage active involvement in social interactions with others who have more literacy experience and knowledge. These interactions help children link reading with enjoyment and satisfaction, which, in turn, increases their interest and desire to engage in meaningful literacy activities (Teale, 1984). These interactions also teach children the functions and conventions of reading and writing. Children should have many
opportunities to use a variety of language processes such as reading, writing, listening, and speaking with peers and more knowledgeable others (Cazden, 1986; Vygotsky, 1934/1978).

Storybook reading is one of the most effective means for developing children’s ability to understand stories, develop vocabulary, and learn concepts of print (Morrow, 1988; Morrow, O’Connor, & Smith, 1990; Teale & Sulzby, 1987). It is the verbal interaction between an adult and child during the read-aloud experience that impacts the child’s learning in such a positive manner. The adult scaffolds and guides the child’s understanding of print features and text structures as well as comprehension of the text. Including story-based discussions in storybook reading assists children in constructing meaning and understanding stories being read to them. From hearing stories read aloud, children develop more sophisticated language structures, such as vocabulary and syntax (Chomsky, 1972). They also learn the structure and linguistic features of narrative texts (Cox & Sulzby, 1984). Language development correlates with reading success. Both of these are improved by regular use of children’s literature in read-aloud situations (Cullinan, 1987; Galda, Ash, & Cullinan, 2000; Galda & Cullinan, 2003).

Phonemic awareness—the ability to segment, delete, and combine speech sounds into abstract units—is an essential element in children’s success in learning to read (Snow, Burns, & Griffin, 1998). Research indicates that poor readers have lower phonemic awareness than good readers do (Juel, 1994). A child’s phonemic awareness can be improved by training (Ball & Blachman, 1991; Cunningham, 1990; Hatcher, Hulme, & Ellis, 1994; Lundberg, Frost, & Petersen, 1988); although to be effective, that training should be combined with reading and use of letters (Bus & van IJzendoorn, 1999; National Institute of Child Health and Human Development [NICHD], 2000). Research emphasizes that phonemic awareness has a critical role in children’s literacy development in the areas of decoding and the ability to read for meaning. It appears that phonemic awareness is a necessary but not sufficient condition for the development of decoding and reading.

Alphabetic principle refers to the sound/symbol relationships that exist in the English language. As children are exposed to print, in the environment or in texts, they begin to make connections between the names and shapes of letters and the sounds that they represent. Children’s use of invented spelling demonstrates their awareness of how sounds are represented by letters or letter combinations.

Many kinds of activities encourage and foster the development of phonemic awareness. These include language play or games that emphasize rhyming and discrimination of onset and rime (Snow et al., 1998). In socio-dramatic play, children have the opportunity to integrate and extend their understanding of language and stories (Levy, Wolfgang, & Koorland, 1992). Read-aloud experiences model what language in books sounds like and how a competent reader sounds. These experiences enhance children’s comprehension of texts and literary language (Galda, Ash,
& Cullinan, 2000; Galda & Cullinan, 2003; Snow et al.). If the read-aloud experience uses a Big Book, the read-aloud also fosters children’s understanding of print concepts and beginning word recognition. Use of alphabet centers and word walls helps children notice and use letters and words (Fountas & Pinnell, 1996). When children are encouraged and given opportunities to use invented spelling, they build their knowledge of letter forms and words and their ability to match sounds to letters and letter clusters (Adams, 1990; Cunningham, 1990; Fountas & Pinnell). Dictation of children’s own oral language, as in the language experience approach, provides texts for children to read. Placing children’s oral language into written form models phonemic awareness and phonics knowledge (Adams).

Methodology

Phonological processing, oral language, and vocabulary development, as essential emergent language and literacy components that develop along a continuum, undergird the FGCU Hub research and professional development activities. Special attention was given to inside-out (phonological awareness, letter knowledge) and outside-in (language, conceptual knowledge) skills as research-based, children-focused learning strategies, materials, and environments (along with professional development tools) were identified and/or developed and field-tested. The FGCU Hub Implementation Team identified three components to guide the scope of the project:

1. Professional Development of the early childhood educators will provide college-level instruction on emergent literacy to early childhood teachers and directors and professional preparation for directors on supporting teachers' new literacy practices.
2. Support Network and Peer Coaching will create a support network to facilitate and sustain teachers as they work to change and improve their literacy practices.
3. Cross-training and support for an early literacy professional development system will create bridges between the child care, Head Start and public school communities that supports and extends the existing early childhood infrastructure.

Strategies to select and implement a professional development model were reflected in the challenges outlined in Florida’s Pathways to Professionalism (2002) report, which suggested that multiple professional development tools and delivery models are necessary. For example, a professional development model must:

- address a diverse workforce of early childhood educators with varying levels of education, basic skills and English proficiency;
- provide research-based instruction that advances individual professional development goals and provides credit toward a degree or educational employment requirement;
- provide affordable and accessible instruction to staff who work in a variety of school
readiness settings and who teach multiple age groups of children, birth through age 5, including children in poverty, ESL and with special needs; and

- provide additional training options for non-traditional learners, especially those living in remote and rural populations.

HeadsUp! Reading—A Multi-dimensional Professional Development Tool

Based on Pathways to Professionalism (2002) and the alignment of Early Learning Coalition goals for professional development, former Governor Jeb Bush’s Just Read, Florida! initiative and the Florida Statewide HeadsUp! Reading initiative, the FGCU Hub project selected the HeadsUp! Reading distance education course and the Creative Curriculum for Early Childhood to promote an integrated approach to developing emergent literacy instructional strategies for the Year 2 FGCU Hub project implementation.

Created by the National Head Start Association, the Council for Early Childhood Professional Recognition and RISE Learning Solutions, HeadsUp! Reading brings professional development to teachers and caregivers, parents, and community partners, delivered live through the use of satellite television technology and the Internet. HeadsUp! Reading, already in successful use in eight states nationwide (including Florida’s Pathways to Professionalism initiative), is designed to build a strong foundation for reading in the crucial early years of life. The course offered a complete 30 clock-hour college course with research-based content, instructional materials, online support, and opportunities for group discussion and practice led by on-site facilitators. Participants received training on curriculum and teaching, assessment, talking, playing, reading, writing, and learning the code (understanding phonological awareness and the alphabetic principle). Students completing the course were able to earn 4.5 clock hours towards a Child Development Associate degree or CDA renewal.

Implementation—Years 3 and 4

Members of the Year 3 Hub Implementation Team agreed that the goals of the FGCU Hub project were aligned with the United Way Success By Six Early Reading First grant objectives. Both utilize a curriculum and materials that are based on scientific research and which align with the School Readiness and Sunshine State Standards for reading; they focus instruction on the five essential reading components of phonemic awareness, phonics, fluency, comprehension, and vocabulary; they involve screening, diagnosing, and monitoring progress using assessment tools; they promote independent reading and providing a variety of written materials for school and home use; they create a print-rich environment in which children enjoy stimulating verbal interaction with adults and other children; and they provide a professional development component that includes model teaching, instruction in reading research, training in how to use assessment data to target instruction for individual students, strategies to create a literate environment and working with parents to help children learn.
**Satellite Training Locations and Beta-Test Sites**

The FGCU Hub Implementation Team partnered with the Early Reading First team to collaborate training and satellite resources, beta-test site locations and research/evaluation design. The FGCU Regional Readiness Hub identified and invited seven early care and learning sites and 16 teachers, directors and coach/mentors, as well as representatives of private, faith-based and family child care providers serving high-risk communities in Southwest Florida to serve as places where promising practices were developed, beta-tested, refined, and demonstrated. The United Way Early Reading First project was active in five centers in Lee, Hendry, and Glades counties, one of which was also a HeadsUp! Reading site. The beta-test sites included one-on-one coach mentoring, as well as program and child assessment and evaluation.

**Evaluation Methodology**

Inclusion of data from the Early Reading First (ERF) project provided for evaluating the effectiveness of both projects. Table 1 presents information on the participating centers. Each center (HeadsUp! and ERF) is listed across the top, and the activities conducted and data collected from each is listed by row. As noted, Center D participated in both projects as part of the collaboration. The same data were collected across all seven sites: Early Learning and Literacy Classroom Observation (Smith, Dickinson, Sangeorge, & Anastasopoulous, 2002), both Literacy Environment Checklist and Literacy Activities Rating Scale, and Creative Curriculum Developmental Continuum Assessment Toolkit for Ages 3-5 (Dodge, Colker, & Heroman, 2001) assessments.

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</tbody>
</table>

*Only had one session*

The theory of change stated that improved teacher knowledge would lead to improved classroom activities and that these two components would positively impact child emergent literacy outcomes. HeadsUp! Reading training and the Creative Curriculum for Early Childhood were two resources provided to teachers to promote an integrated approach to developing emergent literacy. Data collection procedures are summarized in Table 2. The first column restates the evaluation question. The second column lists the data collection methods, which include post-
session surveys and classroom observations. The third column lists the sampling method, if applicable. Sampling methods include both convenience and systematic. The final column describes the procedure used to collect the data.

**Table 2**

*Data Collection Procedures*

<table>
<thead>
<tr>
<th>Evaluation question</th>
<th>Data collection method</th>
<th>Sampling</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Did the teachers who participated in <em>HeadsUp! Reading</em> training demonstrate knowledge of the targeted subject matter?</td>
<td>Post-session surveys; homework</td>
<td>Teacher surveys from the Center D site from the May 16th session. Homework assignments were assessed from two series.</td>
<td>The instructor administered post-session surveys at the end of the session. Homework was graded by the instructor.</td>
</tr>
<tr>
<td>2. Did the teachers who participated in <em>HeadsUp! Reading</em> demonstrate classroom practice to support emergent literacy?</td>
<td>ELLCO Literacy Environment Checklist (LEC) and the Literacy Activities Rating (LAR) Scale</td>
<td>Classrooms in five ERF and two non-ERF (but <em>Hub</em>) sites were assessed.</td>
<td>The ELLCO was administered by ERF program staff and/or the evaluator. Assessment tools were forwarded to the evaluator.</td>
</tr>
<tr>
<td>3. Did the children in the classrooms of the participating teachers demonstrate age-appropriate emergent literacy?</td>
<td>Creative Curriculum listening and speaking and reading and writing assessment subscales</td>
<td>4-year-old subsidized students in the ERF and identified <em>Hub</em> classrooms were assessed.</td>
<td>Assessments were completed by the child’s teacher. Some teachers entered assessments into the online database; others were entered by the evaluator.</td>
</tr>
</tbody>
</table>

Table 3 lists the collected data, by evaluation question, in the first column. The second column includes analysis procedures, while the third column describes interpretation. Interpretation in the objectives approach is to determine whether the program has met its objectives based on the evidence in the data collected during the evaluation.
Table 3
Analysis and Interpretation Procedures

<table>
<thead>
<tr>
<th>Data</th>
<th>Analysis procedures</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Did the teachers who participated in <em>HeadsUp! Reading</em> training demonstrate knowledge of the targeted concepts as evidenced by post-session surveys?</td>
<td>Post-session surveys</td>
<td>Descriptive statistics on quantitative questions</td>
</tr>
<tr>
<td>2. Did the teachers who participated in <em>HeadsUp! Reading</em> demonstrate classroom practice to support emergent literacy as evidenced by the ELLCO?</td>
<td>ELLCO, LEC and LAR</td>
<td>Descriptive: report the mean</td>
</tr>
<tr>
<td>3. Did the children in the classrooms of the participating teachers demonstrate age-appropriate emergent literacy skills on the Creative Curriculum <em>listening and speaking</em> and <em>reading and writing</em> assessment subscales?</td>
<td>Creative Curriculum assessments</td>
<td>Descriptive: report the mean; percent achieving at each level</td>
</tr>
</tbody>
</table>

Findings

**Objective 1: Teacher Knowledge**

As reported by the initial data, strong evidence suggested that teacher's knowledge of emergent literacy increased. In round two, 100% of the participating teachers at the Center G site satisfactorily completed their homework assignments. Thirteen teachers completed post-session surveys at the Center D site:

- 100% of teachers "strongly agreed” or “agreed” that the content of the class was relevant to their work.
- 92.3% of teachers “strongly agreed” or “agreed” that the content expanded their knowledge of the subject.
- 92.3% of teachers “strongly agreed” or “agreed” that they would likely change their behavior as a result of this information.

**Objective 2: Classroom Practice**

Of more interest in round two of the *Hub* project was whether the teachers who participated in *HeadsUp! Reading* demonstrated classroom practice to support emergent literacy as evidenced by the ELLCO Literacy Environment Checklist (LEC) and the Literacy Activities Rating (LAR) Scale. Table 4 provides the score on the three ELLCO components for both the *HeadsUp! Reading* sites and the Early Reading First sites.

While these results do show that teachers are demonstrating appropriate classroom practice, the results are not as strong as for those who participated in the Early Reading First activities. The
ERF classrooms, in addition to training, also received materials and mentoring from Literacy Specialists. The LEC, in particular, reflects the classroom environment. Table 4 presents the ELLCO component scores for ERF classrooms (some of which also received HeadsUp! training).

**Table 4**

**ELLCO Scores of HeadsUp! and Early Reading First Classrooms**

<table>
<thead>
<tr>
<th>ELLCO component</th>
<th>Average score, HeadsUp!</th>
<th>Average score, ERF</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( n = 8 )</td>
<td>( n = 16 )</td>
</tr>
<tr>
<td>Literacy Environment Checklist</td>
<td>28.50 (70% of total points)</td>
<td>40.56 (99% of total points)</td>
</tr>
<tr>
<td>Literacy Activities Rating Scale</td>
<td>9.13 (70% of total points)</td>
<td>12.88 (99% of total points)</td>
</tr>
<tr>
<td>Classroom Observation</td>
<td>41.75 (60% of total points)</td>
<td>65.19 (93% of total points)</td>
</tr>
</tbody>
</table>

**Objective 3: Age-appropriate Emergent Literacy**

The third objective of interest was whether children in the classrooms of the participating teachers demonstrate age-appropriate emergent literacy skills on the Creative Curriculum listening and speaking and reading and writing assessment subscales. Table 5 lists the percentage of children at each stage through Level III as determined by Forerunner (Dodge, et al., 2002) for each item on the two scales. As can be seen from the scores in bold type (representing the highest percentage), children were performing at the highest developmental levels on 4 out of 6 items for listening and speaking and 5 out of 7 for reading and writing.
Also of interest to the team was investigating possible differences in Creative Curriculum assessment subscale scores between HeadsUp! and non-HeadsUp! classrooms. A greater percentage of children were at Level II and Level III developmental steps on both subscales. (Since children were not randomly assigned, t-tests were not performed). Table 6 presents the subscale scores for the Early Reading First classrooms (Center D is included in both Tables 5 and 6 as they participated in both projects). As can be seen in Table 6, children were performing at Level II or III for all items on both subscales.
Table 6

*Creative Curriculum Subscale Score Frequency, ERF*

<table>
<thead>
<tr>
<th>Forerunner (n = 137)</th>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listening and Speaking Subscale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 1</td>
<td>7.8%</td>
<td>20.6%</td>
<td>36.3%</td>
</tr>
<tr>
<td>Item 2</td>
<td>1.0%</td>
<td>17.6%</td>
<td>43.1%</td>
</tr>
<tr>
<td>Item 3</td>
<td>1.0%</td>
<td>9.8%</td>
<td>37.3%</td>
</tr>
<tr>
<td>Item 4</td>
<td>1.0%</td>
<td>22.5%</td>
<td>38.2%</td>
</tr>
<tr>
<td>Item 5</td>
<td>1.0%</td>
<td>33.3%</td>
<td>41.2%</td>
</tr>
<tr>
<td>Item 6</td>
<td>4.9%</td>
<td>32.4%</td>
<td>35.3%</td>
</tr>
<tr>
<td>Reading and Writing Subscale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item 1</td>
<td>2.9%</td>
<td>21.6%</td>
<td>45.1%</td>
</tr>
<tr>
<td>Item 2</td>
<td>4.9%</td>
<td>29.4%</td>
<td>36.2%</td>
</tr>
<tr>
<td>Item 3</td>
<td>10.8%</td>
<td>21.6%</td>
<td>41.2%</td>
</tr>
<tr>
<td>Item 4</td>
<td>8.8%</td>
<td>25.5%</td>
<td>30.4%</td>
</tr>
<tr>
<td>Item 5</td>
<td>4.9%</td>
<td>29.4%</td>
<td>32.4%</td>
</tr>
<tr>
<td>Item 6</td>
<td>8.8%</td>
<td>28.4%</td>
<td>35.3%</td>
</tr>
<tr>
<td>Item 7</td>
<td>8.8%</td>
<td>17.6%</td>
<td>63.7%</td>
</tr>
</tbody>
</table>

At Center D, both a *HeadsUp! Reading* site and an Early Reading First site, the Dynamic Indicators of Basic Early Literacy Skills (DIBELS, n.d.) was used to gather additional child assessments. Two classrooms from this center were involved in this study. The average ages in the two classrooms were 63 months and 49 months. The average Picture Naming scores were 29 and 18, respectively. The improvement from the fall of 2004 to the spring of 2005 averaged 11.65 and 11.32. While the older children are at the suggested trend line with a score of 29, the younger children are under the suggested trend line. The increase, however, is substantially above the suggested increase to be obtained in one year (typically 4-5 points); children may start the year at a disadvantage, but are catching up quickly.

The posttest design applied here has the limitations of self-selection and history. In particular, both the state and local community have been emphasizing school readiness and emergent literacy. Issues impacting the program include the socio-economic characteristics of parents and children participating in the program. For example, while the other centers are predominantly low-income children, Center E is not. Finally, the Early Reading First program had much greater mentoring and training intensity than the *HeadsUp! Reading* program.
Discussion and Implications

Training teachers via interactive video is a viable delivery method for professional development training. The HeadsUp! Reading model is cost-efficient in that experts share with large audiences via satellite with on-site facilitators. HeadsUp! Reading is an effective professional development tool—both in content and delivery method. Preschool teachers should receive credit-bearing professional development opportunities in multiple settings and languages, and preschool directors should be encouraged to participate in professional development opportunities simultaneously with their teachers. Coach/mentors are an effective way to impact and support teacher knowledge, teacher practice, and child development.

Challenges and Opportunities

One significant challenge involved time and motivation for training. Directors are reluctant to commit time away from children for conferencing following observation of teachers. Second, a high turnover rate exists among preschool/day care teachers. Another limitation was the lack of a control group of teachers not trained in HeadsUp! Reading, which would have allowed a comparison of two groups of student scores.

The willingness of directors to complete HeadsUp! Reading training while teachers were being trained was seen as a definite plus, as was the willingness of teachers to implement and report impact on children through anecdotes. Teachers exhibited enthusiasm for the interactive video format of HeadsUp! Reading; they enjoyed the ability to phone in questions and came to class with questions prepared. Teachers also enjoyed the format of the video segment followed by discussions led by on-site facilitators.

Conclusion

The FGCU Hub project successfully brought together expertise from the university, coalitions, and regional partners to improve early care and learning practice, preparation, and professional development, specifically in the domains of language and communication and emergent literacy. The HeadsUp! Reading distance education course and the Creative Curriculum for Early Childhood positively impacted teacher knowledge regarding emergent literacy. ELLCO results showed that teachers are achieving 70% of the total possible points for appropriate classroom practice. Most children had appropriate scores on their assessments and performed at age-appropriate levels: 4 out of 6 items for the reading and writing subscale and 5 out of 7 items on the listening and speaking subscale. The effect of HeadsUp! Reading training and coaching on teacher practice would be stronger with more intensive mentoring, as demonstrated in the ERF sites that had a significant impact on teacher practice and utilization of acquired knowledge. For future program planning, it would be important to extend the time of mentoring and coaching and document the impact of increased time.
This *Regional Hub* project provided an authentic purpose for collaborative planning and implementation among coalitions, child care centers and staffs, and the university. The success of the *HeadsUp! Reading* project can now be replicated in other counties in Florida. Although *HeadsUp! Reading* was a state initiative at the beginning of our project period, there was no documentation of its effectiveness. By piloting this model of professional development and sharing its success, other coalitions in the state have adopted it as a viable means of professional development. The *Hub* work was able to merge with the Early Reading First grant project, thereby expanding the scope and increasing the impact of both projects.
References


Florida Statute 411.01. (1999). School Readiness Act, Title 30, Chapter 411.01.


### Gulf Coast Regional Readiness Hub Partnership Members

<table>
<thead>
<tr>
<th>Affiliation</th>
<th>Person’s Name</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Representative(s)</td>
<td>Dr. Charleen Olliff, Professor</td>
<td>Florida Gulf Coast University</td>
</tr>
<tr>
<td>Coalition Partner(s)</td>
<td>Barbara Saunders, Ex. Director, Shelley Robertson, Evaluator</td>
<td>Early Learning Coalition of Southwest Florida, Inc.</td>
</tr>
<tr>
<td>Other Faculty Members</td>
<td>Dr. Kay Halverson, Dir. FGCU FRC, Dr. Andrew McConney, Professor, Dr. Debbie Giambo, Professor, Dr. Joy Bloodworth, Professor, Dr. Pat Wachholz, Professor, Tina Gelpi, Med, OTR-L, Karen Mock, MS, OTR-L</td>
<td>Florida Gulf Coast University</td>
</tr>
<tr>
<td>Community College Representative(s)</td>
<td>Karen Serrell, Early Childhood Education (BCE) Professor, Dr. Wanda Slayton, ECE Professor</td>
<td>Early Learning Coalition of Southwest Florida, Inc.</td>
</tr>
<tr>
<td>Vocational/Technical Representative(s)</td>
<td>Nancy Hamilton, ECE Professor</td>
<td>Lee Vo Tech</td>
</tr>
<tr>
<td>Subsidized Representative(s)</td>
<td>Dr. Marjorie Wilson, Education Dir., Marie Morales, Training Coordinator, Luz Marchand, Education Specialist, Sandra Palmer, Education Specialist, Nancy Coker, Resource and Referral</td>
<td>Child Care of SW Florida, Inc Central Agency for School Readiness Services</td>
</tr>
<tr>
<td>Faith-based Representative(s)</td>
<td>Linda McGlashan, Director</td>
<td>Bright Beginnings Early School</td>
</tr>
<tr>
<td>Head Start Representative(s)</td>
<td>Michelle Foose, Program Spec., Wendy Gent, Program Spec.</td>
<td>Lee County School District Early Intervention Program</td>
</tr>
<tr>
<td>School-based – District Representative(s)</td>
<td>Dr. Elizabeth Karas, Director, Jeanne LaFountain, Program Director, Pat Riley, Director</td>
<td>Lee County School District Early Intervention Program</td>
</tr>
<tr>
<td>Child Care-related Representative(s)</td>
<td>Kate Sroka, Director, Owner</td>
<td>All Aboard Preschool</td>
</tr>
<tr>
<td>Community Members</td>
<td>Dr. Sandi Eveleth, Pediatric Ophthalmologist</td>
<td>Ft. Myers Eye Associates</td>
</tr>
<tr>
<td>Others</td>
<td>Barb Linder, M.Ed, OTR-L</td>
<td>Lee County School District Pediatric Speech Pathologist</td>
</tr>
</tbody>
</table>
Moving to the Next Level

Cheryl A. Fountain, John P. Manning,
Ronald L. Mullis, Madelaine M. Cosgrove, and
Charles Bleiker
Florida, a large and rapidly growing state, has a reputation as a retirement haven. However, a large number of the nation’s children—nearly 6% of all children in America under age 5—are Floridians. According to Bartik (2006), 65-75% of these children are likely to continue to live in the state during their working years. With an annual birth rate of more than 220,000 (Florida Department of Health, 2005), one might ask whether Florida can meet the demands of a growing population and take advantage of the promise that lies with its youth.

**High-Quality Child Care: An Excellent Investment**

Evidence continues to mount that high-quality, intensive early childhood interventions—particularly for children from low-income families—have lasting positive impacts and are much more cost effective than later remediation efforts. Children who get off to a good start in kindergarten tend to maintain that advantage as they progress through school (Boethel, 2004). Economists Heckman and Krueger (2003) reported that the economic return for high-quality interventions is higher than any other youth-centered intervention (see Figure 1).

![Figure 1. Rates of return to human capital investment, initially setting investment to be equal across all ages.](http://mitpress.mit.edu/9780262582605/)

These economic analyses are supported by the longitudinal research of three high-quality preschool programs: Chicago Child-Parent Center Program, High/Scope Perry Preschool Project, and the Carolina Abecedarian Project. The Perry Preschool and Carolina Abecedarian projects were model programs, while the Chicago Child-Parent Center Program was a model program brought to scale. These interventions, which lasted from 1.5 to 5 years, found that children participating in high-quality early care and learning programs were more likely to be employed at age 40, earn higher wages, own a home, own a car, have a savings account, and enjoy financial independence (Schweinhart et al., 2005). Children participating in high-quality programs were less likely to repeat a grade and less likely to be recommended to special education, resulting in significant savings for state governments (Reynolds, Temple, Robertson, & Mann, 2001). Participants were less likely to be arrested as juveniles, less likely to have multiple arrests, and less likely to commit violent crimes, reducing prison and rehabilitation costs (Temple, Reynolds, & Ou, 2006). Cost savings are presented in Table 1.

Table 1

Research on the Cost-Benefits of High-Quality Early Childhood Program

<table>
<thead>
<tr>
<th>Program</th>
<th>Benefits for Program Participants (compared with control group)</th>
<th>Cost-Benefit Analysis</th>
</tr>
</thead>
</table>
| High/Scope Perry Preschool Project          | • Higher IQ scores when children entered school  
• Better grades through age 19  
• Higher scores on achievement tests through age 14  
• Fewer placements in special education through age 19 (16% vs. 28%)  
• Higher graduation rate from high school (66% vs. 45%)  
• Higher employment rate at age 19 (50% vs. 32%)  
• Fewer welfare recipients through age 27 (15% vs. 32%)  
• Higher monthly earning at age 27 ($1,220 vs. $770)  
• Fewer criminal arrests than their peers                                                                 | Cost-benefit analysis found a cost savings of $7.16 for every dollar invested. |
| For more information: http://www.highscope.org/Research/PerryProject/perrymain.htm |                                                                                                                                  |                                                                                      |
| The Carolina Abecedarian Project            | • Higher IQ scores through age 21  
• Higher scores on achievement tests through age 21  
• Less chance of students repeating a grade through age 15 (31% vs. 55%)  
• Fewer placements in special education through age 15 (25% vs. 48%)  
• Higher college-attendance rate age 21 (36% vs. 14%)  
• Lower rate of child bearing through age 21                                                                 | Cost-benefit analysis found a cost saving of $4.00 for every dollar invested.      |
| For more information: http://www.fpg.unc.edu/%7Eabc/executive_summary.htm |                                                                                                                                  |                                                                                      |
| The Chicago Child-Parent Center Program     | • Higher scores on achievement tests through age 14  
• Less chance of students repeating a grade through age 14 (25% vs. 37%)  
• Less average time in special education through age 14 (6 o. vs. 9 mo.)  
• Higher graduation rate from high school (62% vs. 49%)  
• 52% lower rate of maltreatment by age 17  
• Less likely to be arrested as youths                                                                 | For every dollar invested in preschool, $7.10 was returned to the community. After an initial investment of $6,730 per child, the program generated a total return to society at large of $47,759 per participant. |
| For more information: Http://www.waisman.wisc.edu/cls/Chicago.htm |                                                                                                                                  |                                                                                      |
While these studies are somewhat limited in scope, serving a relatively small number of children at risk of school failure, they illustrate the importance of high-quality early care and learning and the potential benefits to children and to society. Galinsky (2006) suggests that these three high-quality early childhood programs have lasting personal and economic benefits because they:

- served children in their first 5 years of life;
- had well-educated, well-trained, and well-compensated teachers who had a strong focus on their own ongoing learning;
- maintained small class sizes and low teacher-child ratios;
- included intensive parent education/support;
- focused on children's learning, developing habits of mind and the whole child; and
- used a mixture of responsive teaching and direct teaching.

Investment in high-quality preschool programs is an important strategy to strengthen our economic prosperity (Committee for Economic Development [CED], 2004).

**Florida Is Off to a Good Start**

No single action or organizational effort can create, sustain, and scale up high-quality preschool programs that impact children’s school readiness, their school success, and their lives and livelihoods as adults—while also producing an economic benefit to Florida. But through a combination of legislation, citizen action, and advocacy efforts, Florida is off to a good start.

**Legislative and Citizen Action**

In 1999 Florida put forth a public policy that recognized the importance of providing Florida’s youngest citizens with the foundation needed to learn throughout their lives (Florida School Readiness Act, 1999). This act established early learning coalitions across the state, and created the Florida Partnership for School Readiness to provide administrative oversight for the emerging system.

In November 2002, Florida voters passed a constitutional amendment requiring a universal voluntary prekindergarten program (Fla. Const. art. IX, § 1b). The Florida legislature subsequently passed House Bill 1A creating the Voluntary Prekindergarten Education Program and refining the 1999 School Readiness Act (Florida Voluntary Prekindergarten Education [VPK] Act, 2005). The legislation, signed into law by then-Governor Jeb Bush on January 2, 2005, enabled parents to enroll their 4-year-old children in free, high-quality prekindergarten programs. This legislation consolidated Florida’s early learning coalitions, eliminated the Florida Partnership for School Readiness, and divided responsibility among the Agency for Workforce Innovation, Office of Early Learning (AWI/OEL); the Department of Education, Office of Early Learning (DOE/OEL); and the Department of Children and Families (DCF). Taken together, these actions
Moving to the Next Level

provided a framework for transforming an often fragmented and custodial-focused child care sector into the high-quality school readiness system needed for Florida’s continued prosperity in the 21st century.

**Agency for Workforce Innovation, Office of Early Learning (AWI/OEL)**

The AWI/OEL has responsibility for the day-to-day operations of Florida’s school readiness program and works collaboratively with DOE/OEL and DCF to implement Florida’s VPK program. With significant input from practitioners, the AWI/OEL developed, adopted, and disseminated the *Florida School Readiness Performance Standards for Three-Four- and Five-Year-Old Children* (2002), *the Florida Birth-to-Three Learning and Developmental Standards* (2004), and the *Birth to Three Screening and Assessment Resource Guide* (2004). Working with early learning coalitions across the state, AWI/OEL provides leadership to improve the quality of all publicly funded school readiness programs. AWI/OEL deploys 13 coalition analysts to serve as liaisons and first-line points of contact to early learning programs assigned to local coalitions, their partners, and respective sub-contractors. Coalition analysts provide technical assistance, guidance, and training in areas of implementation of approved coalition plans, fiscal responsibilities, and programmatic requirements.

**Florida Department of Education, Office of Early Learning (DOE/OEL)**

The DOE/OEL, working collaboratively with AWI/OEL and DCF, focuses its attention on Florida’s VPK program. It is responsible for (1) administering the VPK accountability system (Florida Kindergarten Readiness Screener), (2) working with frontline practitioners to acquire important knowledge and skills needed to deliver high-quality programs, and (3) developing child performance, curricular, and emergent literacy training standards. In 2005, the DOE/OEL developed the *Florida Voluntary PreKindergarten Education Standards* (2005), which were approved by the Florida Board of Education and then disseminated. DOE/OEL provides technical assistance to early learning coalitions and public and private providers throughout the state as VPK programs are implemented. In 2005/06, approximately 100,000 (48%) of Florida’s eligible children participated in VPK programs.

**Department of Children and Families (DCF)**

DCF is charged by the legislature with protecting the health and safety of children in child care through on-site inspections, technical assistance, and training opportunities. Working with DOE/OEL and AWI/OEL, DCF conducts child care training, including mandated training for all child care personnel, administration of competency testing, and issuance of credentials. DCF has the responsibility for licensing child care providers and assigning Gold Seal Accreditation. DCF has also established a statewide child care resource and referral network so that families have the information they need to obtain care for their children.

**Early Learning Coalitions**

Although legislatively mandated, local communities across Florida eagerly came together to establish county or regional early learning coalitions in support of the transformation of the current fragmented
system of child care services into high-quality school readiness programs. Florida’s 31 (originally 57) early learning coalitions (some single-county, some multi-county) have responded to this legislation in creative and innovative ways by (a) maximizing resources and partnerships; (b) focusing on improving the quality of children’s early literacy experiences; (c) working to improve both structural and process quality of programs via professional development, technical assistance, and quality rating systems; (d) increasing families' engagement in their children's development and learning; and (e) increasing emergency preparedness and recovery efforts.

**Association of Early Learning Coalition Executive Directors**

The Association of Early Learning Coalition Executive Directors (ELC Association) provides a statewide communication link among Florida’s 31 early learning coalitions. The ELC Association works collaboratively to address issues of common concern, share promising practices, and provide input to policy makers on challenges facing children, families, and frontline school readiness practitioners as Florida moves toward achieving the goal of ensuring that all children enter kindergarten ready to read, ready to learn, and ready to succeed.

**The State University System Becomes Involved**

On February 17, 2000, the then-Board of Regents for the State University System of Florida responded to the passage of the 1999 School Readiness Act by approving an agenda to support Florida’s efforts to create a high-quality school readiness system (Florida Board of Regents, 2000). The agenda called on Florida’s public universities to work with local coalitions as they sought to improve the quality of readiness services across the state of Florida. Under the leadership of the Florida Institute of Education at the University of North Florida, 10 public universities formed the *Florida Network of School Readiness Hubs (Hubs Pilot)* as a way to implement the agenda to support school readiness.

The *Hubs Pilot* adapted the cooperative extension model of “extending” university resources to address public needs and impact both local communities and state prosperity. The cooperative extension model began when the Morrill Acts of 1862 and 1890 established land-grant institutions in each state which would, by extension, offer citizens practical instruction and demonstration of techniques in agriculture, home economics, mechanical arts, and other professions. These extension services enabled research conducted in the universities to be quickly applied to immediate and emerging issues in local communities. The agricultural outreach services provided by universities in the late 19th and 20th centuries were highly effective and influential; the *Hubs Pilot* sought to use that same type of outreach to increase Florida’s educational and economic capacity for the 21st century. The *Hubs Pilot* offered knowledge and instruction to improve the quality of school readiness services provided to Florida’s children by establishing a network of regional researcher/practitioner partnerships that were also linked together at the state level.
Did the Hubs Pilot Work?

Using funds from a 6-year U.S. Department of Education grant to conduct a proof-of-concept or pilot study, the Hubs Pilot enabled the 10 participating universities to work with early learning coalitions to address the pressing problems identified in each locality. The Hubs Pilot sought to answer the following question: Can a support mechanism based on collaboration between local early learning coalitions and universities address locally identified problems—with local delivery and accountability—and also serve as a statewide school readiness support system?

Feasibility

A two-tiered researcher/practitioner partnership, designed to strengthen Florida’s emerging school readiness system, was successfully established and sustained through 10 Regional Hubs (representing 10 of Florida’s public universities) and a state-level support network. The Regional Hubs, chaired by a researcher and a local coalition practitioner, built capacities of partner individuals and organizations, improved school readiness services, and extended the research and practice knowledge bases accessible to Florida’s frontline practitioners and early childhood researchers (as described in Chapters 1-10).

The Hubs Pilot state-level component played a pivotal role in (a) linking researchers and practitioners across the state; (b) providing a forum for accessing new information and tackling common and uncommon challenges; (c) leveraging geographically isolated knowledge and resources to address other improvement efforts taking place in other parts of the state; and (d) establishing a shared vision that spanned traditional organizational boundaries.

Productivity

The work of the Hubs Pilot was organized into two phases. During the initial phase, the Hubs Pilot worked with 57 coalitions (later restructured into 31 coalitions) across the state and provided assistance as local coalitions were examining existing services; conducting needs assessments; and developing a blueprint for a high-quality, comprehensive, seamless system of services for children birth to 5 (Cosgrove & Taylor, 2000). The Hubs Liaisons worked with early childhood stakeholders within their respective regions to gather practitioner input for a proposed framework for an articulated career path for school readiness-related professionals (Florida Institute of Education et al., 2001). Hubs Pilot partners also responded to then-Governor Jeb Bush’s request to assist the newly formed coalitions in developing and submitting Early Reading First grant applications.

The second phase of the Hubs Pilot work took a more targeted focus, working with a selected set of local coalitions to address specific, locally identified problems of practice. Chapters 1-10 provide a detailed description of these projects. Eight Regional Hubs focused their local efforts on

- improving school readiness classroom practices,
- testing the effectiveness of using specific curricula that addressed high-priority needs,
• creating and field-testing professional development modules in mathematics and science,
• creating an assessment tool for addressing issues of continuity of care,
• developing and field-testing a tool to help practitioners identify and address adjustment difficulties children may experience during transitions in early care and learning settings, and/or
• testing strategies to more effectively infuse literacy activities throughout the curriculum.

Two Regional Hubs focused their local efforts on

• building families' knowledge and skills to help them more effectively carry out the important role they play in their children's learning and development;
• building families' capacity to help their children develop the knowledge, skills, and dispositions they will need to become successful readers; and/or
• helping families recognize the impact of the differences and/or similarities between the cultures of home and school and what can be done to make them more congruent.

Unanticipated Outcomes

While the Hubs Pilot encountered typical collaborative challenges (e.g., time, trust, relationships, recruitment of participants, variability in leadership, and communication) and child care industry challenges (e.g., staff turnover, conflicting priorities, limited resources, lack of familiarity with each other's programs, and program needs), the Regional Hubs were able to leverage their efforts to other initiatives larger than the projects first fueled by the Hubs Pilot funds. Each partner—university and community—discovered common ground and developed ways to draw upon each other's special expertise. University faculty were invited to sit on coalition boards, and coalition members served on university committees. University faculty served as consultants on topics of local interest and used what was learned during the Hubs Pilot to develop coursework and create articulation agreements with community colleges. The Hubs Pilot initiative helped university researchers clarify research and develop projects that were strong and compelling—so compelling that they attracted additional state and federal funding. For example, an endowed university research professorship was awarded to enable a faculty member to continue her research. In another case, a coalition secured federal funding to examine the relationship between parent involvement and early literacy experiences of young children.

Next Steps

The Hubs Pilot has demonstrated the feasibility and success of a collaborative partnership that brings early childhood researchers and practitioners together to address the needs of local communities across Florida. Building on elements already in place, Florida is poised to take a key step toward achieving excellence: creating a statewide responsive, well-connected and coordinated research- and standards-based support system.
The *Hubs Pilot* researcher/practitioner partnerships provide an important resource and model that can be used to build a responsive school readiness support system that draws on research and links grassroots needs with new kinds of delivery mechanisms, with state-level agency expertise, and tools already in place (e.g. research-based performance standards, readiness screening system). The *Hubs Pilot* demonstrates the value of applying a successful researcher/practitioner model used by another sector vital to our nation’s prosperity in an earlier age—agriculture and the cooperative extension system—to address Florida’s 21st century need to significantly improve educational outcomes for all students, beginning with the youngest, regardless of socioeconomic status or the geographical area in which they live.

The *Hubs Pilot* researcher/practitioner partners stand ready to join other key school readiness stakeholders at the local and state levels to help Florida become the leader in building a high-quality school readiness system capable of leveraging both practice and research, facilitating development of shared goals, addressing locally identified needs, sharing what is learned across communities, and ultimately realizing high levels of achievement for children and adults alike.

Ensuring that all children enter kindergarten ready to read, ready to learn, and ready to succeed will take multiple perspectives and combined efforts. It requires a commitment to making significant changes in the way business is done. It requires a commitment to researcher/practitioner collaboration and information-sharing. It requires a willingness to make adjustments as progress is monitored and new needs are identified. It requires continued investment. Most importantly, it requires that we stay the course. Providing high-quality programs for all children cannot be left to chance, and the knowledge needed to create and sustain excellence cannot remain locked in silos, remote and inaccessible.
References


Fla. Const. art. IX, § 1b


Morrill Act of 1862, ch.130, 12 Stat.503, 7 U.S.C. 301 et seq.


