

An Examination of an Alternative Early Intervention
Service Delivery Model for Latino Families whose
Children are English Language Learners

Final Report

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Abstract

An Examination Of An Alternative Early Intervention Service Delivery Model For Latino Families Whose Children Are English Language Learners

The purpose of this study was to describe a research project, which investigated an alternative service delivery model for infants, toddlers, and their families who were eligible for early intervention services under Part C of IDEA. These families were of Latino heritage and had Spanish as their preferred and dominant language. The study included children representing a range of types and levels of disability and behaviors, and families of differing socioeconomic status, all of whom were English language learners. The research design contained an experimental comparison of two service delivery models: traditional early intervention: and early intervention designed to promote learning within family defined activity settings. Measures were implemented with both groups of children and families yearly for at least two years. Measures included indices of child development and behavior, family background, beliefs, and experiences, and service delivery characteristics, including cost, the use of natural environments for learning, type and intensity of specialized services, type and quality of IFSP goals, and English language use in activity settings. The last outcome was measures across both parents and children, as the first years of a child's life seems to be the optimum time for dual language learning. This study represents a collaboration between the University of Connecticut and Puckett Institute in two states. The Co-Principle Investigators (Bruder and Dunst) have worked together on other early intervention projects. The Part C state offices in each of the states (CT and NC) endorsed this study.

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I. Project Goals and Objectives

Objective 1.0 – Model Development

- 1.1 Outline model
- 1.2 Develop model content
- 1.3 Refine model methodologies
- 1.4 Develop data monitoring system
- 1.5 Sequence and format model
- 1.6 Translate model into Spanish

Objective 2.0 – Model Implementation

- 2.1 Recruit parents
- 2.2 Enroll children
- 2.3 Assess families
- 2.4 Implement model and intervention
- 2.5 Collect implementation data
- 2.6 Collect comparison data on children not receiving model
- 2.7 Analyze data

Objective 3.0 – Dissemination of Model

- 3.1 Format model description for Internet
- 3.2 Advertise model and training manuals nationally
- 3.3 Implement presentation and workshops nationally
- 3.4 Write journal and newsletter articles
- 3.5 Disseminate model and training manuals nationally

Objective 1.0 – Model Development

Activity 1.1 - Outline model. This evaluation includes the following steps:
recruitment, assessment, intervention, and evaluation.

Activity 1.2 – Develop model content. The model emphasized the identification, use and expansion of family identified activity settings and learning opportunities from which IFSP outcomes and objectives can be developed and implemented, and English language can be acquired. Model content was adapted to include interview procedures to elicit a family’s home and community activity settings.

Activity 1.3 – Refine model methodologies. An in depth case study interview procedure was used to identify families’ current and future home and community activity settings. The case study measures included Background Information, Activity Setting Instruments, Personal Belief Instruments, Child, Parent, and Family Measures, Cost Measures, IFSP and Instructional Practices, Activity Setting Based Interventions and Acquisition and Use of the English Language. Project staff identified activity settings by using interview protocols. Interventions were developed to enhance the child’s participation within these settings. Interview protocols were revised to ensure that the questionnaires elicited the appropriate information to meet project goals. See Appendix A, D, and G for a copy of Phase I, II, and IIIs List of Measures and Appendix C, F, and I for a copy of the Measures used within each phase of the study.

Activity 1.4 – Develop data monitoring system. Project staff collected data. A data monitoring system was put in place to ensure that data was accurately and effectively collected, entered, and analyzed. The data collected included background information, activity settings, personal beliefs, child, parent and family information, cost information, activity setting based interventions and acquisition and use of the English language. See Appendix A, D, and G for a copy of the List Measures.

Activity 1.5 - Sequence and format model. See Appendix B for a copy of the Case Study Manual (Phase I), Appendix E for a copy of the Routine-based Study Manual (Phase II), and Appendix H for a copy of the Asset-based Study Manual (Phase III).

Activity 1.6 – Translate model into Spanish. The protocols were translated into Spanish and accompany the copies of the questionnaire in Appendix C, F, and I.

Objective 2.0 – Model Implementation

Activity 2.1 – Recruit parents. Recruitment of families began in November 1998. Latino families with children birth to three years of age were targeted and followed to a year. This represented a change from the original proposal, of targeting children birth to 12 months. The reason for the change was to expand the opportunities for more complex language samples. Recruitment efforts included phone calls to early intervention programs throughout Connecticut and North Carolina, informational brochures in English for early intervention service providers and brochures in Spanish for families. In Connecticut, staff called early intervention programs and asked if they could attend a staff meeting to present the project in person and to have the opportunity to meet all the early interventionists and answer any questions they might have. Early interventions would contact

the families and ask them if they would be interested in participating in the study and if the early interventionist could share their phone number with the project staff. Subsequently, if the family was interested in participating in the study, project staff contacted the family. In Connecticut recruitment through early intervention programs was very difficult. Staff visited other early intervention programs like Family Resource Centers, Community Playgroups, Libraries, Early Head Start Programs, Clinics, and other community agencies providing services to children birth to three. Staff visited programs to find out what services were offered and attended their playgroups, ESL and/or GED classes where Latino families might be participating. See Appendix J for a copy of the English and the Spanish brochures.

In December 1999, recruitment efforts were modified to include children at risk. To target these families project staff concentrated their efforts in contacting community agencies that provided services to Latino families with children birth three.

Activity 2.2 - Enroll Children. In Connecticut, for phase one of the study **20** children were enrolled in the study. In North Carolina, **20** children were enrolled in the second phase of this study. In Connecticut, for the second phase of the study 23 children were enrolled in the study. In North Carolina, **21** children were enrolled in the second phase of this study. In Connecticut, for the third phase of the study **21** children were enrolled in the study. In North Carolina, 23 children were enrolled in the second phase of this study. Experimental and Early intervention groups were selected randomly for each phase.

Activity 2.3 – Assess families. Specific measures were used to assess families' cultural beliefs, identification of activity settings, child behavioral and acquisition and use of the English Language. Families were assessed

throughout their involvement in the study. See Tables 2 and 3 in Appendix B for a list of measures their collection schemes for Phase I. See Tables 6 and 7 in Appendix F for a list of collection schemes for Phase II. See Tables 6 and 7 in Appendix F for a list of collection schemes for Phase III.

Activity 2.4 - Implement model and intervention. Each model for Phase I, II, and III were implemented according to study protocol. See Appendix B for Phase I, Appendix E for Phase II, and Appendix H for Phase III procedural manuals.

Activity 2.5 - Collect Implementation Data. Phase I data was collected until 12/99. Data collection for Phase II began January, 2000. Data collection for Phase III, began January 2001.

Activity 2.6 - Collect comparison data on children not yet receiving model. Comparison data was collected on all families.

Activity 2.7 - Analyze data. See the results section of final report for individual data analyses for each phase of the study.

II. Theoretical Framework

Purpose

It has been suggested that cultural beliefs and values influence parenting behaviors and styles, in turn, influence expectations and outcomes of children (Bornstein, 1991; Edwards, Gandini, & Giovanni, 1996; Goodnow, Miller, & Kessel, 1996; Harwood, Schoelmerich, Ventura-Cook, Schulze, & Wilson, 1996). Cultural beliefs influence the contexts, which families view as learning opportunities for their children, as well as the families' perceptions of disability (Ehrmann, Aeschleman, & Svanum, 1995; Gallimore, Goldenberg, & Weisner, 1993a; Harkness & Super, 1996). In fact, the influence of cultural norms can be more significant than the influence of a specific intervention (Gonzalez-Mena, 1992; Hughes, 1992; Lowenthal, 1996), thus suggesting that a child's sociocultural context (including acculturation, home and community environment, language history and proficiency, communication style, religious beliefs, values, customs, etc.) be addressed within any model focused on facilitation of child development (Garcia, Coll et al., 1996; Hanson, Gutierrez, Morgan, Brennan, & Zercher, 1997). The variety of cultures represented by families of infants and toddlers who are eligible for early intervention under Part C of IDEA provides an opportunity to explore alternative approaches to the delivery of services (Mallory & New, 1994).

The purpose of this study is to describe a research project, which will investigate an alternative service delivery model for infants, toddlers, and their families who are eligible for early intervention under Part C of IDEA. These families are of Latino heritage and have Spanish as their preferred and dominant language. The study included children representing a range of types and levels of disability and behavioral, and families of differing socioeconomic status, all of whom are English language learners.

The research design contained an experimental comparison of two delivery models: traditional early intervention and early intervention designed to promote learning

within families defines activity settings. Measures were implemented with both groups of children and families. Measures included indices of child development, and behavior; family background, beliefs, and experiences, and service delivery characteristics including cost, the use of natural environments for learning, type and intensity of specialized services, type and quality of IFSP goals, and English language use in activity settings. This last outcome was measured across parents and children, as the first years of a child's life seems to be the optimum time for dual language learning (Shore, 1997).

Need

Early Intervention. The field of early intervention has undergone a major shift in service delivery as components of IDEA became mandatory on 7/1/1998. A particular component that has far reaching repercussions is the requirement that all early intervention occurs in the natural environment: those places that a child would participate in, if he/she did not have a disability. The law goes on to identify these environments as being the home, or places in which typical children participate such as child care, nursery schools, and community activities. While this requirement has been in place since the 1986 amendments to IDEA, these latest amendments require a justification for any services not provided in the natural environment.

State and local early intervention programs have struggled with the development of service delivery models that meet the criteria of natural environments. These struggles have resulted, in part, from the services models that were developed by professional) across multiple disciplines) who were trained to provide intervention from a discipline specific focus in places such as clinics or rehabilitation facilities (Kilgo & Bruder, 1997). Further, early intervention has traditionally used a deficit model in which assessment and interventions isolate the skills a child has not yet mastered across the developmental domains of fine and gross motor receptive and expressive language, cognition, social and self-care. A child's development and needs in each of these areas are than written up into in Individualized Family Service

Plan. These lists of needed skills then drive the early intervention services delivered to a child and family (Bruder, Staff, & McMurrer-Kaminer, 1997). These services may or may not be delivered within a child's natural environment.

Family-centered Early Intervention. One of the most important tenets of early intervention in family-centered care (Shelton, Jeppson, & Johnson, 1987). The philosophy recognized that every child is a member of a family (however, it defines itself) and has the right to a home and a secure relationship with an adult or adults. These adults create a family unit and have ultimate responsibility for caregiving, for supporting the child's development, and for enhancing the quality of the child's life. The caregiving family must be seen as constant in the child's life, and the primary unit for service delivery. This becomes most challenging with families of different linguistic and cultural backgrounds, as many have priorities very different from the remedial model of developmental intervention offered by the traditional early intervention program.

An expanded focus on family centered care has resulted in the recommendation that early intervention programs move away from a narrow focus of the child and encompass the broader and self-identified needs of the families (Beckmen, 1996). It has been suggested that the primary goal of early intervention should be to facilitate the parents' primary role of parenting their child with disabilities (Roberts, Rule, & Innocenti, 1998), as they define their needs to be able to do this. Additionally, it has been documented that the social support networks of parents exert strong influences on their child-rearing behavior and attitudes, thus suggesting that early interventionists reconceptualize their model to be more family supportive. Parents who receive more support for the care of young children with disabilities exhibit more positive psychological adaptation and more effective involvement in early intervention programs (Dunst, Trivette, & Jodry, 1997). By changing the focus from child centered to parent family adaptation, both programs and parents have seen beneficial results (Affleck et al., 1990, Robert, et al, 1998).

Influence of Culture and Ethnicity of Families. A large of research evidence indicated that child behavior and development is influenced by both the quality of home and community environments and the personal characteristics of people within these settings (Bronfenbrenner, 1979; Bronfenbrenner & Crouter, 1983; Cochran, 1990; Dunst & Trivette). There is also considerable evidence that the home routines and activities within these settings are different for families differing in cultural and ethnic backgrounds (Gallimore, Weisner, Kaufman, & Bernheimer, 1989; Goodnow, Cashmore, Cotton, & Knight, 1984; Harrison, Wilson, Pine, Chan, & Buriel, 1990), and that the kinds of activities available in different neighborhoods, communities, etc., also vary as a function of ethnic and cultural backgrounds (Floyd & Gramann, et al., 1993a). Furthermore, family values and beliefs associated with different ethnic and cultural groups are known to influence whether or not different home routines and community settings (e.g., natural environments) are viewed as appropriate contexts for learning (Ehrmann et al., 1995), and are settings in which parents desire that their children become involved (Gallimore & Goldenberg, 1993). We also know that cultural and ethnic values and beliefs influence parents' expectations regarding desired and acceptable child behavior in different settings and contexts (Bruder, Anderson, Schutz, & Caldera, 1991; Goodnow, & Collins, 1991; Goodnow et al., 1995). Additionally, we now know that cultural beliefs and values influence the kinds of parenting behaviors and styles parents use (as well as are likely to use) to influence their children's behavior (Edwards et al., 1996; Harwood et al., 1996; Hess Proce, Diskson, & Conroy, 1981; Ichinose & Clark, 1990). Consequently, the fact that home routines or community settings exist and can be used to enhance development must be done within the context of a family's cultural and ethnic belief system, otherwise efforts to promote child competence might "backfire" and in fact have negative consequences (Bernheimer & Keogh, 1995; Bernstein & Stettner-Eaton, 1994; Hanson et al., 1997; Hughes, 1993; Segal, 1985). For example, among families who consider meal time routines a context in which children are expected to be quiet and listen to adults, efforts to promote certain kinds of child behaviors in this setting might be inappropriate and violate cultural norms and expectations (Lynch & Hanson, 1992).

Central Importance of Activity Settings. A review and integration of the cross-cultural literature finds that despite the above differences and variations, one commonality exists that forms the foundation for selecting the particular learning contexts of the proposed early intervention model. The commonality is the fact that families almost universally consider different activity settings as the primary contexts for defining important aspects of family life (Bernheimer & Keogh, 1995; Ehrmann et al., 1995; Floyd & Gramann, 1993; Gallimore, Weisner, Bernheimer, Guthrie, & Nihira, 1993b; Harrison et al., 1990; Hughes, Seidman, & Williams, 1993; O'Donnel, Tharp, & Wilson, 1993). According to Gallimore et al. (1993), activity settings “are the architecture of everyday life (p. 539). They are the ‘common stuff’ of family life...and reflect a mix of personal and cultural values and parent’s beliefs about their children and families” (Bernheimer & Keogh, 1995, p.418). These activity settings include, but are not limited to, family meal times, reading children books at bedtime, participating in storytelling by elders, family rituals and traditions, community festivals and celebrations, etc. (Dunst et al., 1987; Kellegrew, 1994). These particularized activity settings are similar in the sense that they all provide child behavior opportunities and experiences, but differ in terms of their purposes and functions and demands and expectations. Moreover, it is now known that the particular activity settings that define family life are ones that families ascribe special meaning, again including, but not limited to, experiences that parents desire for their children so that children acquire knowledge, skills, attitudes, etc., consistent with family and cultural belief systems. Furthermore, those commonalities have been found in studies of children with (Ehrmann et al., 1995; Gallimore et al., 1989) and without (Gallimore et al., 1993a; O'Donnel et al., 1993) disabilities.

Implications for Theory and Practice. The fact that cultural and ethnic diversity is related to any number of differences in home routines and community settings is important for both theory and practice. Theoretically, any conceptual model useful for understanding the use of different natural settings as the context for learning must include explicit concern for cultural diversity as a factor influencing learning

opportunities, which our model does. The implications for practice include explicit concern for: a) family identified activity settings as the basis for early intervention outcomes and services, b) similarities and differences in home routines and community activities across the two models of early interventions, c) parent/family perspectives of the purpose, function, and “meaning” of these environments contexts and use of English language within them, and d) the match between the practices used by interventionists and the parent/family beliefs and values about parenting styles and language. More concretely, we must be absolutely sure that dominant cultural beliefs, attitudes, practices, etc., are not used as the “norm” for what is done with culturally diverse families to increase learning opportunities for children with disabilities. This includes, but is not limited to, such things as a) which routine and settings are, or are not, used as natural learning contexts, b) the roles parents play in these contexts, c) the kind of IFSP formats used to guide practices, d) the language used within settings, and e) implicit or explicit expectations placed in families, etc.

The Latino Population in Early Intervention. As is true when working with families of any culture, individual differences are very important (Lynch & Hanson, 1992). Learning about other cultures should help us to understand the individuals in their cultural context, as opposed to reinforcing a stereotype of a given culture. This consideration is perhaps even more relevant to those of the Latino culture, since their population exhibits a whole range of acculturation and adaptation factors. For example, across the language variable, almost one-third of Puerto Ricans in the mainland U.S. speak little or no English. Yet, within the same group, over ten percent speak little or no Spanish. It is with this word or caution that we refer to cultural norm, with the understanding that no value or belief is uniformly shared by every member of a culture.

The Latino population in the U.S. is growing at a fast rate. For example, the Latino population is continuing to grow on the mainland USA: from 1980 to 1990 the number of Latinos in Connecticut grew 71% from 124,499 to 213,116; nationally this population grew 53%. Data gathered in 1993 by the U.S. Census Bureau suggests

that 40 percent of Latino children live in poverty compared to 13 percent of non-Latino white children; the Latino jobless rate is twice that for non-Latino whites; Latino families had median incomes of \$23,912, compared with \$40,420 for non-Latino whites; and 53 percent of Latinos over the age 24 had a high school diploma, compared to 84 percent of non-Latino whites.

Although there is a large body of research about Latinos in the United States, little of it applies to any one sub-population. The term “Latino” has been used to refer to Mexican Americans in the south West, to Cubans in the South East, to Puerto Ricans in the North East, and to other immigrants from Spanish speaking countries. Often, the literature does not distinguish between these heterogeneous groups. At times, city and state demographics statistics are combined to obtain national figures that no longer differentiate according to Latino categories. To further complicate this issue, Latinos can belong to virtually any race (i.e., white, black, mulatto, American Indian, and oriental, such as in part of the Philippines), and therefore they have been counted in almost any category in census and surveys. It is important to realize that twenty-six separate nationalities are called Latino, and while certain characteristics may be found in each, there is considerable variation.

Even though Spanish-speaking populations have a common language, they are not a homogeneous group. Differing degrees of acculturation, socioeconomic class, educational status, occupation, geographical and racial origins will affect their beliefs and behaviors. Spanish-speaking populations span all socioeconomic classes and educational backgrounds. This diversity influences particular expressions of cultural preferences, as well as the adjustment process to a different society. There is, however, no guarantee that a shared ethnic heritage produces common ethnic identity. Members of particular groups may share a “peoplehood” (historical identification), but if they are from different social classes, they may have very different behavioral styles and “participational identification” (Harry, 1992b). For example, Puerto Ricans differ considerably from other Latino groups, and present some unique characteristics as a minority population: They are U.S. citizens; they move back and

forth between the mainland U.S. and the island with relative ease; and they have not uniformly met with improved economic status after migration.

Life in the U.S. has proved difficult for families of Latino heritage for a number of reasons. These include: the loss of family support networks; language barriers; the lack of awareness of community resources; the predominantly rural backgrounds of those migrating or immigrating (limited job skills); the predominantly young age of those moving here; and the fact that Latinos have, or begin to have, large (by U.S. standards) numbers of children.

Parenting Role Within the Latino Culture. It is important to remember that societies are fluid systems subject to changing trends that affect relationships. Latino society is not different, and therefore the women liberation movement has played a major role in redefining traditional marriage and family patterns, as have effects such as poverty and family membership (Harwood, 1992; Harwood et al., 1996). In a traditional dual parent family, as described by Hardy-Fanta and MacMahon-Herra (1981), the father has the ultimate authority in all family matters; the mother is expected to provide nurturance. Although she may discipline the children in small matters, it is the male who is the definitive enforcer to limits and rules. The mother frequently uses the threat of action that the father will take in response to a child's misbehavior as her means of control during the father's absence. In homes where there is no stable male, the mother has no "ultimate authority" who will follow through on these threats of consequences. Traditionally, there are several alternative family structures when no father is present: a male relative may be called in, or the maternal grandmother, wither alone or with the mother, may fulfill parental functions, including the particularly "male" component of ultimate authority in disciplinary matters. Respect for her age and position contributes to the grandmother's success in having sufficient force to achieve this authority. At a later stage, an older child may supplement the mother and grandmother's parental functions. Because of the stress of immigrations or migration and the lack of support from the Anglo value system for these alternative structures, inconsistency has been frequently observed in the single-parent Latino

family. It is important to acknowledge that the term “family” may include members who are relatives, as well as those friends who form the support network.

III. Phase I Model Description

Case Study

Design

The principal goal of the study is the systemic testing of an alternative early intervention service delivery model that is culturally referenced to families' activity settings in natural environments. The goal was accomplished through the implementation of the model, and the collection of the detailed data on the child, family and service outcomes of the participants. Detailed comparisons were performed by statistical analyses on the body of the data collected on the model group and comparison group in order to assess the differential impact of the curriculum.

A longitudinal investigation was undertaken to examine the effects of alternative early intervention service delivery model on child and family outcomes. Families (and infant/toddlers) were of Latino heritage and English language learners. In total 26, children and families were enrolled and randomly assigned to the alternative service delivery model or the comparison group. The comparison children received standard early intervention as documented through their IFSP and delivered by their state funded early interventionists (non-project supported). The children assigned to the alternative model received early intervention delivered by their state funded early interventionist as coached by project staff.

The alternative early intervention model emphasized the identification, use and expansion of family identifies activity settings as learning opportunities from which IFSP outcomes and objectives can be developed and implemented, and English language use can be acquired. Spanish will be used to deliver the intervention initially, until the family requests otherwise. An in-depth interview procedure was used to identify families' current and future home and community activity settings. Interventions were developed to enhance the child's participation within these

settings. In necessary, and under family direction, the child's IFSP was refined or changed in order to reflect these emphases. Participatory intervention strategies represented a variety of interventions ranging from family accommodations to child skill building. The foundation of the alternative model was the emphasis on family identified activity settings, which result in meaningful early intervention. It should be noted that activity settings by definition were culturally references and determined by the family. The langue used in the alternative model was both Spanish and English as the activity setting was used and the vehicle for translating Spanish meanings into English equivalents throughout the intervention.

Treatment Approach. The early intervention model, which was used as a treatment variable in this study was adapted from the work on the importance of activity settings to a family's like (Dunst et al., 1998; Gallimore et al., 1993b). The adaptations included interview procedures to elicit a family's activity settings in the home and community. The parent(s) and bilingual research assistants identified these using interview protocols. The family was asked to fill out surveys and research assistants completed observations of the child and family. After these measures were completed, the parent(s), teachers and project research assistants again meet to either: develop intervention outcomes/strategies for the IFSP; or refine the outcomes and strategies for the IFSP (if it has already been completed). At this time, a home and community activity matrix was used to develop an individualized sequence of participatory (e.g., intervention) strategies for the child in the family identified activity settings. The participatory strategies were embedded throughout the home routines and community activities identified by the family. Incidental teaching techniques (Hart & Risley, 1973) were used to provide the learning opportunities (including English language usage) to the child and family. These techniques were modeled and feedback continuously given to the family and other caregivers.

Parents and early interventionists meet a minimum of monthly with the research assistant to develop, refine, and monitor the child and family's individualized model. In addition, the whole team that was working with the family attended biweekly

group meetings with the research assistants to assist in the development and implementation of the activity setting intervention and teaching strategies. Project staff visited each child receiving the alternative model biweekly during the remaining 18 months of the project participation to monitor data collection on the learning activities and use of English. In addition, the participating teaching staff (including therapist) spent two afternoons per month in staff development activities related to the alternative model. Intervention was delivered in Spanish until a family requested otherwise. Part C services requires attention be given to family needs, thus allowing referral to a more formal English language learning program if requested by the family. However, a specific focus of the intervention was ascribing meaning to the activity settings via both Spanish and English language usage, to assist both parent and child to acquire and use English during home routines and community activities.

Measures.

Case Studies. A case study methodology was used to document both the independent and dependent variables because it is especially useful for combining qualitative and quantitative data collection in ways that permit systemic examination of the “ecology” of any number of intervention processes. Additionally, by explicitly including parents as participants in assessing the strengths and limitations of different processes, feedback from efforts to produce “real life” changes can be meaningfully ascertained. This approach seems especially applicable as a strategy for learning the best ways, and under what conditions, child learning opportunities can be increased through families.

The instrumentation for case studies is the case study protocol. A case study protocol includes the purpose of the case study, the focus of the investigation, field procedures to be followed so as to insure reliability, the case study questions the investigator is attempting to answer, and the source of data to be examined/obtained to answer the case study questions. Case study data include but are not limited to, available written

documents (e.g., IFSPS), interviews, observations, etc. The validity of case study findings are established through triangulation.

Parent Self-Report and Investigator-Administered Rating Scales. A number of parent self-report scales and investigator-administered rating scales were used to obtain information about both characteristics of home and community activity settings and the outcomes/benefits associated with the use of home routines and community activity settings.

Behavioral Observations. Different measures of both the independent (e.g., increases in use of home and community contexts) and the dependent measures (child functioning, child mastery, and child/family quality of life) were monitored to ascertain how and in what manner the interventions were implemented and benefits/changes associated with the interventions.

IV. Phase II Model Description Routine-Based Study

Design

The purpose of this study was to increase child participation in home and community activity settings and ascertain the child (use of English), parent/child, and parent/family benefits associated with increased participation. The intervention involves: a) child participation in activity settings and matching child assets (interests, competence, etc.) and b) parent use of responsive teaching as the primary instructional technique for engaging children in activity settings and promoting the use of English.

The study was based on the premise that participation in activity setting matching child assets ought to mirror conditions having both development-instigating and development-enhancing characteristics. Responsive teaching was viewed as an

intervention strategy for reinforcing and supporting high levels of child engagement in activity settings and in using English words.

Study participants include 23 children with developmental delays or at-risks for developmental delay and children with disabilities participating in Part C early intervention programs or Part B (619) preschool special education programs and their families. The study included 23 families followed longitudinally over a 5-month period of time. Research staff visited the children and their families once per week, with different visits involving a combination of observations, interviews and investigator ratings of child, parent/child, and parent behavior.

The outcomes of this study included child behavior and development (particularly the development of English), child quality of life, parent/child interactions, parenting confidence and competence, parent and family well-being, parent and family quality of life parent control and choice, and the psychological costs of conducting interventions in activity settings. Self-report, observational, and investigator-administered procedures were used to collect the outcome data.

Measures.

Family Background Questionnaire. This interview protocol was used to obtain child, parent, and family background information needed for ascertaining family structure, SES, etc. measuring different aspects of parents' ethnic, racial, and cultural backgrounds and experiences.

Activity Setting Protocol. This interview protocol was used to identify the home and community activity settings making up the fabric of family life, child interests and the activity settings matching child interests.

Instructional Practices Intervention. This protocol was used to provide parent guidance in using responsive teaching as an instructional strategy.

Family Evaluation of Intervention Practices. This self-report instrument was used for parent to judge the usefulness of the intervention procedures.

Family Activity Settings Log. This self-report instrument was used by a family to record child participation in activity settings and child behavior (e.g., interest) manifested in the activity setting.

Activity Setting Parent Rating Scale. This investigator-administered scale obtains different kinds of information about child and parent behavior associated with child participation in activity settings.

Activity Setting Observation Scale. This observation scale is used to make in vivo rating of child, parent/child and parent behavioral as part of child participation in activity settings.

Child Behavior Characteristics Rating Scale. This global rating observation scale is used to assess different dimensions of child behavioral and interactional style.

Parent Behavior Scale. This global rating scale is used to assess different aspects of parent, parent/child, and parent/family behavior.

Parent Confidence/Competence Scale. This global rating scale is used to assess different aspects of parenting competence.

Developmental Observation Checklist. This self-report instrument is used by a parent to assess child development in four developmental domains (language, social, motor, and cognition).

Everyday Parenting Scale. This self-report scale was used to obtain judgment about parent confidence and competence.

Child and Parent Experiences Scale. This self-report scale measures multiple dimensions of child, parent, and parent/child, and family behavior.

V. Phase III Model Description Asset-Based Study

Design

The purpose of the study is to investigate an alternative service delivery model for infant, toddlers, and their families were eligible for early intervention services under Part C of IDEA. The families were of Latino heritage and had Spanish as their preferred and dominant language. The study included children representing range of types and levels of disability and behaviors, and families of differing socioeconomic status, all of whom are English language learners. The research design contains an experimental comparison of two service delivery models: traditional early intervention; and early intervention services designed to promote learning within family defined activity settings. The traditional early intervention service delivery model, or comparison group, will continue to receive their early intervention services from their Part C early intervention programs only. The alternative service delivery model will consist of the activity settings matching model, as well as intervention involving a) child participation in activity settings matching child assets (interests, competence, etc.) and b) parent use of responsive teaching as the primary instructional technique for engaging children in activity settings and promoting the use of English. Responsive teaching is viewed as an intervention strategy for reinforcing and supporting high levels of child engagement in activity settings and using English words.

Study participants include 44 children with developmental delays or at-risk for developmental delays and children with disabilities participating in Part C early intervention programs and their families. The study is being conducted in

Connecticut and North Carolina. The study will included 21 families in North Carolina and 23 families in Connecticut, who were randomly assigned to the alternative service delivery model or the comparison group. The families were followed longitudinally over a 6-month period of time. Research staff visited the children and families participating in the alternative service delivery model once per week, with different visits involving a combination of observations, interviews, and investigator rating of child, parent/child, and parent behavior.

The outcomes of this study included child behavior and development (particularly the development of English), child quality of life, parent/child interactions, parent confidence and competence, parent and family well-being, parent and family quality of life, parent control and choice, and the psychological costs of conducting interventions in activity settings. Self report, observational and investigator-administered procedures were used to collect the outcome data.

Measures

Study Explanation Sheet. The Study Explanation Sheet included information needed to fully explain the study to the study participants, obtain informed consent, obtain releases for the child diagnostic reports and developmental records, and explain how families will be compensated for their participation in the study. The study explanation sheet was a guideline for fully disclosing all aspects of the investigation to the participants.

Family Background Questionnaire. This questionnaire was administered in an informal way and asked parents for background information about themselves, their children, and other family members. The information is used for descriptive purposes and for ascertaining the relationship between different background variables and the activity setting and outcome variables.

Diagnostic Reports/IFSPs and IEPs. Child diagnostic and development reports from any program or individual who conducted evaluations and assessments were obtained when available, as were the IFSPs and IEPs for each child participating in the study.

Instructional Practices Log. An Instructional Practices Log was administered at every session to (1) identify the types of family, home, and community activity settings that occur during each visit with the family, (2) identify the Spanish and English words spoken during the activity settings, and (3) what the Research Assistants role was in the activity setting. The activity settings being observed on a particular week depended upon what other collection instruments were being collect during that visit.

Family Evaluation of Intervention Practices. This questionnaire asks the family to indicate whether a number of statements were true, and to what degree, regarding the methods and procedures they are using to provide their children with learning opportunities as part of everyday family and community life.

Family Activity Setting Log. The Family Activity Setting Log was used by the parent for recording child participation in activity settings, child engagement/persistence, child learning, and child enjoyment in activity settings. The activity settings selected by the parent as sources of learning opportunities were recorded along with what day of the week the child participated in the activity setting and whether the child used any English words during the activity setting.

Activity Setting Observation Scale. The Activity Setting Observation Scale was used to measure different aspects of child, parent/child, and parent behavior in the context of specific activity settings. The child and parent were observed by the research assistant in at least five targeted activity settings (i.e. 3 family and 2 community) every other week and assessments were made of six target behaviors. The child and parent were observed in each activity setting as long as it took to obtain 6 to 8 sets of ratings. Each activity setting observation consisted of 30 seconds of observation, up to 30 seconds of

recording, 30 seconds of observation, and so forth, until at least 6 but no more than 8 intervals were scored per activity setting.

Activity Setting Parent Rating Scale. The Activity Setting Parent Rating Scale was an investigator-administered scale completed by interviewing a parent respondent about the target activity settings for his/her child. Ratings were made for (1) the individual activity settings identified by a parent as the sources of learning opportunities and (2) different child and parent behavior associated with participation in the activities.

Developmental Observation Checklist. (i.e., DOCS) The DOCS is a 475-item parent completed checklist. Through observation, the DOCS assesses child development in four developmental domains (i.e. language, social, motor, and cognition). The parent is asked to check either a yes or a no response based on the question asked.

Activity Setting Log. The Activity Setting Log was administered at every session to (1) identify the types of family home and community activity settings that occur during each visit with the family, and (2) identify what happened during the activity setting.

Parent/Child Language Assessment. The language assessment is an audiotape of the child participating in activities in the home. Each language sample was taken from a 25-minute audiotape of this parent and child play interaction. The audiotapes were then translated from Spanish to English and transcribed. Transcriptions of the audiotapes were used to form a list of all word attempts and English words spoken by the child during each session. This word list was used to create eight different language assessment categories: 1) total number of novel English words, 2) total number of English words including duplicates, 3) English words spoken during session, 4) total number of two English words spoken, 5) list of all two English words spoken, 6) total number of three or more English word phrases, 7) list of all three or more English words spoken, and 8) number of novel English words spoken not previously recorded.

Outcome Measures. Several different measures will be used as dependent measures for assessing changes in the child and family as children learn English language usage. The measures will all be derived from information provided by families and the audio-recorded language samples taken during sessions 4, 8, 12, 16, 20, and 24 for the intervention group and sessions 1, 2, 3, 4, 5, and 6 for the control group.

VI. Project Impact

Contribution and Current Knowledge and Practice.

The current project expanded the current knowledge base on the effects of an alternative early intervention model for families of Latino heritage who are English language learners in a number of ways. First, the project developed a data base on children of Latino heritage. The data was collected on family background and demographics, child status (developmental behavioral), family status, and early intervention services characteristics. The descriptive analysis added to the growing national data base on outcomes of children enrolled in early intervention, and provided data on early intervention outcomes, children's behavior and family participation in learning opportunities.

Second, the project collected information and the immediate and long-term effectiveness of an alternative service delivery model that uses family referenced activity settings as early intervention learning opportunities for children with disabilities who are English language learners. The implementation of this model with children and their families provided information to early interventionists, special educators, related service personnel and families intent on improving the involvement and effectiveness of services with families of Latino heritage. The effects of an activity setting approach compared both within and across children, allowing for empirical validation of the model. In particular, information was collected on the use and expansion of activity settings over time.

Third, the project provided and analysis of data collected on the delivery of early intervention in natural group environments (home routines and community activities). These data should enable policy makes, administrators and service providers to make recommendations on service design for early intervention and preschool special education.

Forth, the project analyzed family impact over time. This is a variable often overlooked and it has been recommended as one area, which should be used to measure intervention efficacy.

Fifth, the project provided information of parent, family and child acquisition of English language usage as a result of activity setting language use. This is most important for the future of bilingual education.

Sixth, the project will provide information to those in personnel preparation. This should result in training programs better able to prepare administrators and practitioners to provide effective early intervention and preschool special education to children and their families.

PROJECT RESULTS

Phase I Study.

Method

Participants

Twenty-six families with children 0 to 3 years of age, who use Spanish as their predominant or preferred language and who qualify for Part C services will participate in this study. Children in each site either received early intervention through the typical early intervention system or early intervention through identified home and community settings.

Procedure

A highly focused and structured approach was used to obtain input, activity setting, and output information for assessing efforts to promote the use of home and community activity settings as sources of children's English learning opportunities. Emphasis was on the collection of quantitative data supplemented with the qualitative descriptions to place the quantitative findings in perspective. Qualitative information was recorded in the field notes maintained by each research staff member.

As described above, data collection was anchored in the activity settings as the unit of analysis. This was supplemented with input (family background, acculturation and enculturation, etc.) and output (child, parent, and family functioning) data collection using observational, interviews, and self-report, measures. See Appendix B tables 2 and 3 for a summarization of the scheme and sequence of administration of the study instruments and organization of the data collection scheme according to individual sessions. The study was expected to take approximately 10 – 12 months per child/family with the administration of the various input, activity settings, intervention, and output measures occurring precisely in the order shown.

Measures

Case Studies. A case study methodology was used to document both the independent and dependent variables because it is especially useful for combining qualitative and

quantitative data collection in ways that permit systemic examination of the “ecology” of any number of intervention processes. Additionally, by explicitly including parents as participants in assessing the strengths and limitations of different processes, feedback from efforts to produce “real life” changes can be meaningfully ascertained. This approach seems especially applicable as a strategy for learning the best ways, and under what conditions, child learning opportunities can be increased through families.

The instrumentation for case studies is the case study protocol. A case study protocol includes the purpose of the case study, the focus of the investigation, field procedures to be followed so as to insure reliability, the case study questions the investigator is attempting to answer, and the source of data to be examined/obtained to answer the case study questions. Case study data include but are not limited to, available written documents (e.g., IFSPS), interviews, observations, etc. The validity of case study findings were established through triangulation.

Parent Self-Report and Investigator-Administered Rating Scales. A number of parent self-report scales and investigator-administered rating scales were used to obtain information about both characteristics of home and community activity settings and the outcomes/benefits associated with the use of home routines and community activity settings.

Behavioral Observations. Different measures of both the independent (e.g., increases in use of home and community contexts) and the dependent measures (child functioning, child mastery, and child/family quality of life) were monitored to ascertain how and in what manner the interventions were implemented and benefits/changes associated with the interventions.

Results.

Participants

Twenty-six children and their parents were recruited for this study. The participants were Latino families living in the Connecticut and North Carolina. Thirty-five percent (N = 9) of the families were from Guatemala, twenty-three percent (N=6) were from Puerto Rico, another nineteen percent (N = 5) were from Mexico, and the remainder from Peru (N = 4, 15%), El Salvador (N = 1, 4%), and the Dominican Republic (N = 1, 4%). Families participating in the study had been in the United States 1 to 11 years with the majority of families (77%) living in the United States 5 years or less.

Of the twenty-six children who were recruited for the study, eight (31%) were female and eighteen (69%) were male. Children ranged in age from 1 to 58 months. The average age of the children was 24 months old. The mothers' average age was 31 years old and 81% of them were stay at home mothers. Of the twenty-six mothers, 2 (8%) reported completing an associates degree, 4 (15%) reported completing high school or having a GED, and 20 (77%) reported having less than a high school degree. The mean age of partners was 33 years old and 70% of them worked full-time. One (6%) had completed a 4-year college degree program, two (11%) had completed their associates degree, one (6%) had completed high school, and fourteen (78%) reported having less than a high school degree. This information was not provided for the eight families who reported being single without a significant other present.

Within the twenty-six households, 16 (62%) reported that only their ethnic language was spoken in the house. Within the ten families that reported speaking English within the home the majority of families (N = 8) reported speaking English "A Little" (31%). See Table 1 within Appendix K.

The total number of families recruited was thirteen (50%) for the intervention group and thirteen (50%) for the control group. Twelve were receiving early intervention services and 14 children were not receiving services. Six families (24%) reported that their child

was receiving home-based early intervention services, 2 families (8%) reported that their child received center-based services, and an additional 2 (8%) families reported that their child received a combination of home and center-based services.

Activity Settings Rating Scale. This investigator administered scale obtained different kinds of information about the target child and parent behavior associated with the child's participation in an activity settings. The scale is broken down into three sections: 1) Activity Setting Ratings, 2) Child Use of English, and 3) Parent Ratings. The Activity Setting Ratings encompasses three scores: 1) Child Interest (How much did the child enjoy or was interested in using English in the activity setting), 2) Child Persistence (How much did the child work at using English in this activity setting), and 3) Learning Opportunities (How many different English words did the child use in the activity setting). The Child Use of English section includes five subsections: 1) English Words Used by the Child (number of words recorded), 2) Number of Two or More Word Phrases, 3) Competence (How well did the child use English in the activity settings), 4) Frequency (How often did the child use English in the activity settings), and 5) Range (Besides using English words identified as part of this activity, how many other English words did child use in activity setting). The Parent Ratings section contained three subareas: 1) Psychological Cost (Was it worth more trouble than it was worth to do the activity with the child), 2) Quality of Life (How much did the child participation in the activity setting make life better or more enjoyable for your family), and 3) Parenting (How much did getting the child to participate in the activity setting make you feel good providing your child new kinds of opportunities to learn English). Parents rated their answers on a 5-point Likert scale with 1 being "Not At all" to 5 being "A Great Deal".

From weeks 3 to 39 parents rated increases across all subsections of the Activity Settings rating, Child's Use of English ratings, and Parent ratings. Parent ratings of Child's Persistence (M = 1.54), and Learning Opportunities (M = 1.39) increased from "Not At All" to "Quite a Bit" (M=4.00, M=4.00) respectively. Parents also rated their children as being competent in their English language usage, using English more often, and

increasing their range of English words spoken by the 39th week of the study. See Table 2 within Appendix K.

Activity Setting Observation Scale. This observation scale was used to make in vivo rating of child, parent/child and parent behavioral as part of child participation in activity settings. The scale is broken down into three sections: 1) Activity Setting Ratings, 2) Child Use of English, and 3) Parent Ratings. The Activity Setting Ratings encompasses three scores: 1) Child Interest (How much was the activity setting something the child enjoyed or was interested in doing), 2) Child Persistence (How much did the activity setting get the child to work hard or try his/her best to use English), and 3) Learning Opportunities (How many different opportunities to use English did the activity setting provide the child). The Child Use of English section includes five subsections: 1) English Words Used by the Child (number of words recorded), 2) Number of Two or More Word Phrases, 3) Competence (How well did the child use English in the activity settings), 4) Frequency (How often did the child use English in the activity settings), and 5) Range (How many different English words/phrases did the child use in the activity setting). The Parent Ratings section contained three subareas: 1) Psychological Cost (How much effort did the parent “put into” having the child use English in the activity setting), 2) Quality of Life (How much did the child participation in the activity setting make things better, easier or more enjoyable for the family), and 3) Parenting (How much did the parent seem to enjoy or feel good about providing his/her child the opportunity to use English). Parents rated their answers on a 5-point Likert scale with 1 being “Not At All” to 5 being “A Great Deal”.

From weeks 3 to 39, observers rated increases across all subsections of the Activity Settings rating, Child’s Use of English ratings, and Parent Ratings. Observers ratings of Child’s Persistence ($M = 1.92$), and Learning Opportunities ($M = 2.25$) increased to a mean of 3.50 and 4.00 respectively. Observers also rated the children as being competent in their English language usage, using English more often, and increasing their range of English words spoken by the 39th week of the study. See Table 3 within Appendix K.

Personal Cultural Beliefs Questionnaire. Parents rated their beliefs in three areas: 1) child behavior, 2) child learning, and 3) parenting roles. Parents were given cards with statements written on them corresponding to the section. They were asked to rank order each statement from most important (1) to least important (20) for child behaviors, from best way (1) to least best way (16) for child learning, and from most important (1) to least important (17) for parenting roles.

Parent rated the most important child behavior beliefs as 1) belief in god/belief in a greater spirit, 2) confident/self-assured, 3) respect for elders and adults, 4) hard working/does the best possible, and 5) responsible/loyal to others. Parents rated being ambitious/competitive, creative/inventive, has lots of friends/popular with others, in harmony with nature/spiritual wellness, and helpful/cooperative as their least important child behavior beliefs. See Table 4 within Appendix K.

Parents rated the best way for children to learn as 1) providing child interesting toys and materials, 2) believing in a greater being or god, 3) following directions, 4) doing things over and over, and 5) watching what other people do. Parents rated being criticized or punished, repeating what other children do, controlling one's own actions, having lots of successes, and getting older and more mature and the least best way for children to learn. See Table 4 within Appendix K.

Parents rated their most important parenting roles as 1) giving assistance or help, 2) showing child how to do something, 3) providing choices to do things over and over, 4) providing lots of fun activities to do, and 5) answering the child's questions. Parents rated criticizing child/punishing behavior, getting another child to show how, having child make choices or decisions, getting the child "to look" at own actions, and having child figure things out on their own as the least important parenting role. See Table 4 within Appendix K.

Phase II Study.

Method

Participants

The participants are 24 children with developmental delays or identified disabilities involved in Part C early intervention or Part B preschool special education programs, or at-risk for developmental delay. A purposive sampling procedure was used to select children whose language development was between 18 and 24 months.

Procedure.

A highly sequential and structured approach was used to obtain and input, activity settings and output information for assessing efforts to increase the use of home and community activity settings as sources of children's learning opportunities. Emphasis was on the collection of qualitative data supplemented with qualitative description to place the quantitative findings in perspective. Qualitative information is recorded in the field notes maintained by each research staff member.

Data collection during the intervention phase of the study was anchored on activity settings as the unit of analysis. Both input (family background, acculturation and enculturation, etc.) and output (child, parent, and family functioning) data collection will be accomplished using observational, interviews, and self-report measures. See Appendix E for tables 6 and 7 summarizing the data collection scheme and sequence of administration of the study instruments and the organization of data collection schemes according to individual study sessions. The study took approximately 20 weeks (sessions) per child/family with the administration of the various input, activity settings, intervention, and output measures occurring precisely in the order shown. The sequence was necessary in order to be able to separate out the effects of input, intervention, and output variables.

Measures.

Family Background Questionnaire. This interview protocol was used to obtain child, parent, and family background information needed for ascertaining family structure, SES, etc. measuring different aspects of parents' ethnic, racial, and cultural backgrounds and experiences.

Activity Setting Protocol. This interview protocol was used to identify the home and community activity settings making up the fabric of family life, child interests and the activity settings matching child interests.

Instructional Practices Intervention. This protocol was used to provide parent guidance in using responsive teaching as an instructional strategy.

Family Evaluation of Intervention Practices. This self-report instrument was used for parent to judge the usefulness of the intervention procedures.

Family Activity Settings Log. This self-report instrument was used by a family to record child participation in activity settings and child behavior (e.g., interest) manifested in the activity setting.

Activity Setting Parent Rating Scale. This investigator-administered scale obtains different kinds of information about child and parent behavior associated with child participation in activity settings.

Activity Setting Observation Scale. This observation scale is used to make in vivo rating of child, parent/child and parent behavioral as part of child participation in activity settings.

Child Behavior Characteristics Rating Scale. This global rating observation scale is used to assess different dimensions of child behavioral and interactional style.

Parent Behavior Scale. This global rating scale is used to assess different aspects of parent, parent/child, and parent/family behavior.

Parent Confidence/Competence Scale. This global rating scale is used to assess different aspects of parenting competence.

Developmental Observation Checklist. This self-report instrument is used by a parent to assess child development in four developmental domains (language, social, motor, and cognition).

Everyday Parenting Scale. This self-report scale was used to obtain judgment about parent confidence and competence.

Child and Parent Experiences Scale. This self-report scale measures multiple dimensions of child, parent, and parent/child, and family behavior.

Results.

Participants

Twenty-four children and their parents were recruited for this study. The participants were Latino families living in the North Carolina. Fifty percent (N = 12) of the families were from Mexico, another twenty-one percent (N = 5) were from Guatemala, seventeen percent (N = 4) were from Honduras, and the remainder from El Salvador (N = 2, 8%), and Nicaragua (N = 1, 4%). Families participating in the study had been in the United States 1 to 10 years with the majority of families (67%) living in the United States 5 years or less.

Of the twenty-four children who were recruited for the study, eight (33%) were male and sixteen (67%) were female. Children ranged in age from 15 to 28 months with the average age of the children being 21 months old. The mothers' average age was 26 years old and 71% of them were stay at home mothers. Of the twenty-four mothers, 3 reported

having completed an associates degree (13%), five reported having completed high school (21%), and sixteen mothers (67%) reported less than a high school degree. The mean age of the partners was 28 years old and 100% of them worked full-time. Two (10%) partners had completed their associates degree, four (19%) reported that they had completed high school or had a GED, and fifteen (71%) reported having less than a high school degree. This information was not provided for the three families who reported being single or separated from their significant other.

Within the twenty-four households, 17 (71%) reported that their ethnic language was spoken only, 6 (25%) families reported that they spoke their ethnic language “a lot” and English “a little”, and 1 (4%) family reported speaking their ethnic language “a lot” and English “some”. All of the families (100%) reported that they preferred to speak in their ethnic language. See Table 1 within Appendix L.

Family Evaluation of Intervention Practices. Throughout the study, 54 outcome measures were completed by the families. Each family completed between 1 to 4 outcome measures of the intervention practices throughout the course of the study. Overall, families (96.3%) participating within the intervention portion of the study rated the Responsive Teaching Method as fitting easily into their life style and schedule. Parents also reported (93%) these methods as being useful in helping their child learn. Ninety percent of parents reported that the Responsive Teaching Method was useful, effective, and not disruptive to their daily activities. Participation within the study was viewed by parents as helping them to see new learning possibilities for their child (100.0%), helping them to focus on their child’s strengths and capabilities (98.2%), and making their interactions with their child more fun and enjoyable (100.0%). See Table 2 within Appendix L

Activity Setting Parent Rating Scale. This investigator-administered scale obtained different kinds of information about the target child and parent behavior associated with the child’s participation in an activity settings. The scale is broken down into three sections: 1) Activity Setting Ratings, 2) Child Use of English, and 3) Parent Ratings. The

Activity Setting Ratings encompasses three scores: 1) Interest-Based (How much was the activity setting something the child enjoyed or was interested in doing), 2) Child Engagement (How much did the activity setting get the child to work hard, stay busy, or try his/her best), and Learning Opportunities (How much choice did the child have in terms of doing what he or she wanted in the activity setting). The Child Use of English section includes five subsections: 1) Child's English Words (number of words recorded), 2) Two or More Word Phrases, 3) Child Competence (How well did the child use English in the activity settings), 4) Frequency (How often did the child use English in the activity settings), and 5) Behavior Variation (How many English words did the child use in the activity setting). The Parent Ratings section contained three subareas: 1) Parent Effort (How much effort did it take to get the child to use English in the activity setting), 2) Parenting Confidence (How much did getting the child to use English in the activity setting make you feel good about your efforts), and 3) Parent Competence (How much did getting the child to use English in the activity settings make you feel like you provided your child important kinds of learning opportunities). Parents rated their answers on a 5-point Likert scale with 1 being "Not At All" to 5 being "A Great Deal".

From week 5 to week 19 parents rated increases in the Activity Settings Rating section. Parents rated an increase in their child's enjoyment and interest, child engagement, and learning opportunities by the 19th week. Children's use of English words increased from 1.02 words spoken during the 5th week to 2.72 words spoken during the 19th week. Parents also rated an increase in the child's English competence, the frequency of English word usage, and behavior variations. Parents also rated an increase in their level of confidence and competence and felt they had to use less effort to get their child to use English words. See Table 3 within Appendix L.

Everyday Parenting Scale. This 24-item self-report scale was used to obtain judgment about parent confidence and competence. Items were rated by parents on a 7-point Likert scale with 0 being "Never" and 6 being "Always". Overall, the majority of parents' confidence and competence increased by the end of the study. Parents reported increased confidence and competence in doing fun things with their child, in what they were able to

accomplish with their child, and in getting everyday parenting responsibilities accomplished. Parents were also less likely to view themselves as not doing the right thing with their child, not being affectionate, not being a good parent, viewing their child as interfering with what they were doing, and viewing other people as being better at getting the child to listen and behave. See Table 4 within Appendix L.

Child Behavior Characteristics Rating Scale. This global rating observation scale is used to assess different dimensions of child behavioral and interactional style. This scale has three sections 1) Social Responsiveness, 2) Positive Affect, and 3) Negative Affect. Observers rated the child's behavior during the session. Social Responsiveness was rated on a 5-point Likert scale with 1 being the least socially responsive and 5 being the most socially responsive. The Positive and Negative Affect sections of the scale were rated by the observers using a 5-point Likert scale with 1 being "Not At All" and 5 being "Almost All the Time".

By the 20th week, children were viewed by observers as crying and fussing less, and being less withdrawn, listless, and apprehensive. Children were also observed to smile more, be more consolable and more goal directed. See Table 5 within Appendix L.

Parenting Competence and Confidence Scale. This global rating scale was used to assess different aspects of parenting competence. Each item on the scale was rated by parents using a 5-point Likert scale with 1 being the least and 5 being the most. For example, Effort was assessed by parents using the following Likert scale.

Effort = item assesses the amount of effort a parent puts into carrying out everyday parenting and child rearing responsibilities. Assessed in terms of the attention and intensity a parent invests in doing everyday parenting tasks.

- 1 = Low attention, Low intensity
- 2 = Some attention, Low intensity
- 3 = Moderate attention, Moderate intensity
- 4 = High attention, moderate intensity
- 5 = High attention, High intensity

Parents were observed as using more effort, strategizing more, and being better able to carry out parenting and childrearing responsibilities by the 20th week. Parents were also observed as being more emotionally attached, being better able to juggle many different household and child rearing responsibilities, and having greater pride in their parenting and child rearing responsibilities. See Table 6 within Appendix L.

Parenting Behavioral Rating Scale. This global rating scale was used to assess different aspects of parent, parent/child, and parent/family behavior. Ten different aspects were measured using this scale 1) Enjoyment, 2) Sensitivity to Child's Interest, 3) Responsibility, 4) Achievement Orientation, 5) Effectiveness, 6) Directiveness, 7) Expressiveness, 8) Warmth, 9) Inventiveness, and 10) Verbal Praise. Items were rated by observers using a 5-point Likert scale. For example, Enjoyment was assessed by parents using the following Likert scale.

Enjoyment – Item assesses the parent's enjoyment of interacting with the child. Is experienced and expressed in response to child's spontaneous expressions or reactions and behavior when interacting with parent.

1 = Enjoyment is absent

2 = Enjoyment is seldom manifested

3 = Pervasive enjoyment but low-intensity

4 = Enjoyment is the highlight of the interaction

5 = High enjoyment

Parents were observed as showing more enjoyment, being more sensitive to the child's interests, being more responsive, effective, and inventive, and being more expressive with their child by the 20th week of the study. See Table 7 within Appendix L

Phase III Study.

Method

Participants

Nineteen children and their parents were recruited for this study. The participants were Latino families living in the North Carolina. Fifty-three percent (N = 10) of the families were from Mexico, another twenty-six percent (N = 5) were from Guatemala, and the remainder from El Salvador (N = 2, 11%), Columbia (N = 1, 5%), and Ecuador (N = 1, 5%). Families participating in the study had been in the United States 2 to 6 years with the majority of families (74%) living in the United States 5 years or less.

Of the nineteen children who were recruited for the study, nine (47%) were male and ten (53%) were female. The average age of the children was 20 months old. Ten children lived with their mother and father, five children lived with their mother and her partner, and four lived with just their mother. The mothers' average age was 26 years old and 68% of them were stay at home mothers. Of the nineteen mothers, 1 reported completing high school (6%), and sixteen mothers (94%) reported less than a high school degree. Level of education attained was missing for two of the mothers. The mean age of the fathers was 31 years old and 74% of them worked full-time. Three (20%) had completed high school, one (7%) had a college degree, and eleven (73%) reported having less than a high school degree. This information was not provided for the four families who reported being single without a significant other present.

Within the nineteen households, 11 (58%) reported that English was spoken in the house, and 8 (42%) reported that English was not spoken in the house. Within the eleven families that reported speaking English within the home the majority of families (N = 9) reported speaking English "Some" to "Quite A Bit" (82%). Two families (18%) reported speaking English "A Little". See Table 1.

The families were recruited from a variety of both public and private service providers working with families who had recently moved to the United States including but not

limited to, Part C early intervention programs and public health departments. Parents were recruited who had children just beginning to learn to talk, and who wanted their children to learn English. All of the children in this study qualified for Part C early intervention services in North Carolina.

The total number of families recruited was ten (57%) for the intervention group and nine (43%) for the control group. Due to various family issues, such as, the family moving and children being too ill to continue, the analyses for this study were run based on the participants who continued the study long enough for project staff to collect 4 Parent/Child Language Assessments (i.e. the outcome measure) per family.

Procedure

The study lasted for 24 weeks, and consisted of three sessions of baseline interviews and measurements for the intervention group and one session of baseline interviews and measurements with data collection for the control group. The exact number of weeks it took to complete the study varied because of child illnesses, family vacations, and other life events.

Baseline. Participants were interviewed using investigator-developed protocols to identify the activity settings making up the fabric of family and community life. The participants also identified the activity settings they considered important opportunities where their children could learn English. Daily routines, non-daily routines, family and community rituals and celebrations, and other child, parent, and family events and activities were identified first. Next, participants were asked to identify activity settings they felt would be appropriate sources of learning English for their children. Emphasis was placed on the selection of activities that would be fun and enjoyable for participants and their children and would occur at least three or four times a week.

Intervention. Participants were visited every week for 24 weeks during the intervention phase of the study. At the end of the baseline period and during the first week of

intervention, the participants along with research staff developed and implemented procedures for increasing children's use of English words and phrases in activity settings.

The approach used is a child-based intervention that focuses on the activities that were likely to be interesting to the child. Participants were asked to identify the 10 – 12 activities the child would enjoy most and occur in the home or community at least three or four times a week.

Measures

Study Explanation Sheet. The Study Explanation Sheet included information needed to fully explain the study to the study participants, obtain informed consent, obtain releases for the child diagnostic reports and developmental records, and explain how families will be compensated for their participation in the study. The study explanation sheet was a guideline for fully disclosing all aspects of the investigation to the participants.

Family Background Questionnaire. This questionnaire was administered in an informal way and asked parents for background information about themselves, their children, and other family members. The information is used for descriptive purposes and for ascertaining the relationship between different background variables and the activity setting and outcome variables.

Diagnostic Reports/IFSPs and IEPs. Child diagnostic and development reports from any program or individual who conducted evaluations and assessments were obtained when available, as were the IFSPs and IEPs for each child participating in the study.

Instructional Practices Log. An Instructional Practices Log was administered at every session to (1) identify the types of family, home, and community activity settings that occur during each visit with the family, (2) identify the Spanish and English words

spoken during the activity settings, and (3) what the Research Assistants role was in the activity setting. The activity settings being observed on a particular week depended upon what other collection instruments were being collect during that visit.

Family Evaluation of Intervention Practices. This questionnaire asks the family to indicate whether a number of statements were true, and to what degree, regarding the methods and procedures they are using to provide their children with learning opportunities as part of everyday family and community life.

Family Activity Setting Log. The Family Activity Setting Log was used by the parent for recording child participation in activity settings, child engagement/persistence, child learning, and child enjoyment in activity settings. The activity settings selected by the parent as sources of learning opportunities were recorded along with what day of the week the child participated in the activity setting and whether the child used any English words during the activity setting.

Activity Setting Observation Scale. The Activity Setting Observation Scale was used to measure different aspects of child, parent/child, and parent behavior in the context of specific activity settings. The child and parent were observed by the research assistant in at least five targeted activity settings (i.e. 3 family and 2 community) every other week and assessments were made of six target behaviors. The child and parent were observed in each activity setting as long as it took to obtain 6 to 8 sets of ratings. Each activity setting observation consisted of 30 seconds of observation, up to 30 seconds of recording, 30 seconds of observation, and so forth, until at least 6 but no more than 8 intervals were scored per activity setting.

Activity Setting Parent Rating Scale. The Activity Setting Parent Rating Scale was an investigator-administered scale completed by interviewing a parent respondent about the target activity settings for his/her child. Ratings were made for (1) the individual activity settings identified by a parent as the sources of learning opportunities and (2) different child and parent behavior associated with participation in the activities.

Developmental Observation Checklist. (i.e., DOCS) The DOCS is a 475-item parent completed checklist. Through observation, the DOCS assesses child development in four developmental domains (i.e. language, social, motor, and cognition). The parent is asked to check either a yes or a no response based on the question asked.

Activity Setting Log. The Activity Setting Log was administered at every session to (1) identify the types of family home and community activity settings that occur during each visit with the family, and (2) identify what happened during the activity setting.

Parent/Child Language Assessment. The language assessment is an audiotape of the child participating in activities in the home. Each language sample was taken from a 25-minute audiotape of this parent and child play interaction. The audiotapes were then translated from Spanish to English and transcribed. Transcriptions of the audiotapes were used to form a list of all word attempts and English words spoken by the child during each session. This word list was used to create eight different language assessment categories: 1) total number of novel English words, 2) total number of English words including duplicates, 3) English words spoken during session, 4) total number of two English words spoken, 5) list of all two English words spoken, 6) total number of three or more English word phrases, 7) list of all three or more English words spoken, and 8) number of novel English words spoken not previously recorded.

Outcome Measures. Several different measures will be used as dependent measures for assessing changes in the child and family as children learn English language usage. The measures will all be derived from information provided by families and the audio-recorded language samples taken during sessions 4, 8, 12, 16, 20, and 24 for the intervention group and sessions 1, 2, 3, 4, 5, and 6 for the control group.

Results

Family Evaluation of Intervention Practices. Each month 8 intervention families rated the helpfulness of the intervention practices. Throughout the study, 30 outcome measures

were completed by the 8 families. Each family completed between 3 to 5 outcome measures of the intervention practices throughout the course of the study. Overall, families (100.0%) participating within the intervention portion of the study rated the Responsive Teaching Method as fitting easily into their life style and schedule. Parents also reported (95%) these methods as being useful in helping their child learn. Ninety percent of parents reported that the Responsive Teaching Method was useful, effective, and not disruptive to their daily activities. Participation within the study was viewed by parents as helping them to see new learning possibilities for their child (100.0%), helping them to focus on their child's strengths and capabilities (100.0%), and making their interactions with their child more fun and enjoyable (100.0%). See Table 2.

Activity Setting Observation Scale. The Activity Setting Observation Scale was used to measure different aspects of child, parent/child, and parent behavior in the context of specific activity settings. The observations were broken down into nine distinct categories: 1) Child Positive Affect, 2) Child Negative Affect, 3) Child Engagement, 4) Parent Responsiveness, 5) Parent Elaborations, 6) Parent Directiveness, 7) Parent Positive Affect, 8) Parent Appropriateness, and 9) Parent Effectiveness.

The measures were all derived from samples taken during sessions 4, 8, 12, 16, 20, and 24 for the intervention group and sessions 1, 2, 3, 4, 5, and 6 for the control group. The current analysis used only the first (i.e., Time 1) and the fourth (i.e., Time 4) sample of the control group and the fourth (i.e., Time 1) and sixteenth (i.e., Time 4) sample of the intervention group. These samples were chosen to provide the largest number of subjects in the control (N=9) and intervention groups (N=10).

An analysis of variance was conducted to assess the relationship between the intervention and control groups prior to the study (i.e. Time 1) as well as at Time 4 the 4th (control) and 16th (intervention) sessions. Tables 3 to 11 within Appendix M show the finding of the analysis of variance for the nine observation categories. Analysis of Time 1 data indicated a significant difference between the intervention and control groups for three observation categories: 1) child negative affect, 2) child engagement, and 3) parent

effectiveness. The children within the control group exhibited significantly higher levels of negative affect ($F(1, 64) = 15.65, p < .00$) and significantly lower levels of child engagement ($F(1, 64) = 5.19, p < .03$) at Time 1. The parents within the control group exhibited significantly lower levels of parent effectiveness ($F(1, 64) = 6.39, p < .01$) at Time 1.

At Time 4 the intervention group exhibited significantly higher levels of Parent Elaboration ($F(1, 64) = 5.58, p < .02$). Although significant differences were not found at Time 4 for the 8 other observation categories of the Activity Observation Scale, positive growth was observed in the mean scores of the parents and children participating within the intervention group between Time 1 and Time 4. Tables 3 through 11 within appendix M and Figures 1 to 9 within Appendix N elaborate the growth from Time 1 to Time 4 for the Intervention and Control groups. The intervention group exhibited positive growth from Time 1 to Time 4 within Child Positive Affect, Parent Responsiveness, Parent Elaborations, Parent Appropriateness, and Parent Effectiveness. Parents within the intervention groups also exhibited a decrease in the level of parent directiveness.

Activity Setting Parent Rating Scale. The Activity Setting Parent Rating Scale was an investigator-administered scale completed by interviewing a parent respondent about the target activity settings for his/her child. Three hundred and seventy nine activity settings were rated by families. Activity settings were placed within 21 categories: 1) Arts/Entertainment Activities, 2) Children's Attractions, 3) Clubs and Organizations, 4) Church Activities, 5) Community Activities, 6) Family Outings, 7) Family Routines, 8) Outdoor Activities, 9) Play Activities, 10) Sports Activities, 11) Chores, 12) Gardening Activities, 13) Parenting Routines, 14) Child Routines, 15) Literacy Activities, 16) Physical Play Times, 17) Family Rituals, 18) Family Celebrations, 19) Socialization Activities, 20) Observational Opportunities, and 21) Entertainment Activities.

Correlational analyses were computed for the Activity Setting Parent Rating Scale. The majority of the variables were highly significant. The higher the child's interest in an

activity the greater the learning opportunities ($p < .000$), child's competence ($p < .000$), child's engagement, ($p < .000$), parent confidence ($p < .003$), and parent competence ($p < .009$). Lower parent effort was significantly associated with high interest child learning activities ($p < .000$), higher child competence with the learning activity ($p < .000$), and greater child engagement in the learning activity ($p < .001$). As shown in Table 12 within Appendix M, parent confidence and competence ratings were also positively associated with child interest level, learning opportunities, child competence, and child engagement in the learning activity.

Developmental Observation Checklist.

The DOCS is a 475-item parent completed checklist. Through observation, the DOCS assesses child development in four developmental domains (i.e. language, social, motor, and cognition). The measures were all derived from samples taken during sessions 4, 8, 12, 16, 20, and 24 for the intervention group and 1, 2, 3, 4, 5, and 6 for the control group. The current analysis used only the first (Time 1) and the fourth (Time 4) sample of the control group and the fourth (Time 1) and sixteenth (Time 4) sample of the intervention group. These samples were chosen to provide the largest number of subjects in the control ($N=9$) and intervention groups ($N=10$) at Time 1 and Time 4 (control = 8 and intervention = 6).

An analysis of variance was conducted to assess the relationship between the intervention and control groups prior to the study (i.e. Time 1) as well as at Time 4 the 4th (control) and 16th (intervention) sessions. Tables 13 through 22 within Appendix M show the finding of the analysis of variance for the child's overall development, cognition, language, social, and motor categories using standard scores and age equivalent scores. As shown in Tables 13 through 22 within Appendix M show analysis of Time 1 data indicated no significant difference between the control and intervention groups within the children's overall development, cognition, language, social, or motor category scores when using the standard scores or age equivalent scores as outcome measures.

Tables 13 through 22 within Appendix M show that no significant differences were found at Time 4 between the intervention and control groups within the children's overall development, cognition, language, social, or motor category scores when using the standard scores or age equivalent scores as outcome measures. However, within 4 short months greater positive growth was observed within the age equivalent mean scores of the control group. As shown by Figures 10 through 14 within Appendix N the control group averaged a greater gain of one and a half months in each area within the 4-month study period.

Parent/Child Language Assessment. The measures were all derived from samples taken during sessions 4, 8, 12, 16, 20, and 24 for the intervention group and 1, 2, 3, 4, 5, and 6 for the control group. The current analysis used only the first (Time 1) and the fourth (Time 4) sample of the control group and the fourth (Time 1) and sixteenth (Time 4) sample of the intervention group. These samples were chosen to provide the largest number of subjects in the control (N=8) and intervention groups (N=8) at Time 1 and Time 4.

Several different measures were used as measures for assessing changes in the child's English language usage. These measures were derived from audio-recorded language samples recorded during session 4, 8, 16, 12, 16, 20, and 24. Each language sample was taken from parent and child play episodes and then transcribed for data coding. Eight language measures were derived from the transcriptions: 1) total number of novel English words, 2) total number of English words including duplicates, 3) English words spoken during session, 4) total number of two English words spoken, 5) list of all two English words spoken, 6) total number of three or more English word phrases, 7) list of all three or more English words spoken, and 8) number of novel English words spoken not previously recorded.

An analysis of variance was conducted to assess the differences between the intervention and control groups on the eight language measures prior to the study (i.e. Time 1) as well as at Time 4 the 4th (control) and 16th (intervention) sessions. Tables 23 through 30

within Appendix M show the findings of the analysis of variance for the eight language measures. As shown by Tables 23 through 30 within Appendix M show no significant differences were found between the intervention and control groups at Time 1 for the eight language measures. At Time 4 the control group showed a significantly greater number of one-word English utterances used by the child during the session ($F(1, 14) = 4.36, p < .05$) and a significantly greater number of English words spoken including duplicates through Time 4 ($F(1, 14) = 5.23, p < .04$).

As shown by Figures 15 to 22 within Appendix N the control group had gains in their mean scores for each language measure that was greater than the intervention group by the fourth month of the study. At Time 4, the control group had 3.33 greater novel words in their repertoire, 8.37 more English words total that they had spoken, and 6.38 more single English words spoken during session 4 than the control group.

Appendix A