

FIFTH BIRTHDAY Report

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Progress Report
For Healthcare and
Childcare Providers of
Infants and Toddlers



FIRST
WORDS®
Project

About FIRST WORDS® Project

Our Mission

The FIRST WORDS® Project is a model early identification and intervention program based in the Department of Communication Disorders at Florida State University. Staffed by speech-language pathologists and interdisciplinary consultants, we are funded to evaluate the communication development of children from **6 to 24 months of age** in Leon and surrounding counties. For children who are delayed in communication development, we offer families a menu of service options. Services are offered at no charge to families or service providers, based on availability of grant funds. In addition to services provided in Leon County, we are developing educational materials for training of healthcare and childcare providers to build their capacities for earlier detection of communication problems in young children.



How Can We Find Children Who Need Services Earlier?

A child's level of communication development may be the best indicator of the presence of a developmental delay.

- When serious health or physical impairments are not present, the first evident symptom that a child may not be developing typically is delayed language.
- Most children develop their first words between 12 and 15 months, and it is common practice to wait until a child is 18 to 24 months and still not talking to refer the child for an evaluation. To complicate this referral decision, some children who are not talking at 24 months will outgrow their language delay while others will have persisting language problems and associated academic problems.
- Research over the past two decades has identified the following 7 language predictors that are indicators of later language development and promise earlier and more accurate identification:

- 1) emotion and eye gaze
- 2) rate and function of communication
- 3) gestures
- 4) sounds
- 5) words
- 6) understanding
- 7) play

- Children who are delayed in use of **words only** are very likely to outgrow their language delay. Children who are delayed in the use of words and several other predictors are likely to have persisting language problems.
- Instead of waiting for children to start using words, measuring these language predictors is a promising solution to improve early identification.

Why Is Earlier

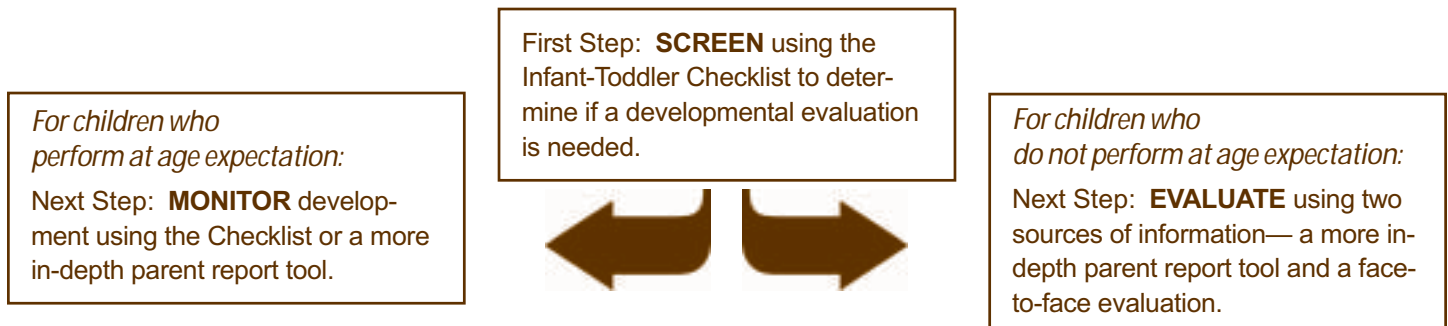
Identification a Critical Need?

Developmental delays in infants and toddlers are significantly under-identified, prohibiting early intervention for many children and families in need of services. Early intervention can prevent or decrease developmental delays in preschoolers, enhance school readiness, and increase academic success in school-age children.

- Every dollar spent on early intervention is estimated to save \$7.16 in later special education, crime, and welfare costs.
- Language development is one of the most critical school readiness skills. Children with language problems in preschool are very likely to have academic and behavior problems at school age.
- If a child does not have adequate emotional, physical, cognitive, and language stimulation early in life, neurons can be lost permanently, because the brain operates on a "use it or lose it" principle.

Our Evaluation Model

The FIRST WORDS® Project evaluation model for identifying children under 24 months of age at risk for developmental disabilities uses the CSBS Developmental Profile (Wetherby & Prizant, 2001) to measure the 7 prelinguistic predictors. It is a three-step process, designed to maximize the role of the family and minimize the time required by healthcare or childcare providers, enhancing effectiveness and cost-efficiency.



Menu of Services Offered to Families by FIRST WORDS® Project

FIRST WORDS® Project offers a menu of service options to families to support communication development in children who may need extra help to reach their potential:

- **Parent Education Workshops** are offered in the community to provide information about communication with specific ideas about how to support children's development.
- **Infant-Toddler Play Groups** are offered to give caregivers the opportunity to talk to a professional about their child's development in a relaxed, informal, child-friendly setting with time for discussion, coaching, and play. Sessions focus on how their child communicates, how to respond in ways to promote their child's communication development, how to address communication development in everyday activities in the home, and how to deal with special issues such as behavior problems related to limited communication or oral/motor issues.
- **Individualized, Family-Guided Intervention Programs** are offered for families whose children have been evaluated by FIRST WORDS and are eligible for early intervention services. Sessions focus on individualized goals identified with families to enhance their child's communication development in everyday activities in the home.
- **Referrals for Services in the Community** are made for children who need more specialized evaluation or who may qualify for services that are offered in the community.
- **Monitoring Communication and Language Development** with our evaluation tools is offered to families who are concerned about their child's development and want to find out how their child is progressing. For children under 24 months of age, we usually monitor development in 3-month intervals to detect growth. A child's growth rate is the best predictor of prognosis.



Visit our website for updated information about our project, and a current calendar of parent education workshops and infant-toddler play groups being offered in Leon County.

<http://firstwords.fsu.edu>

The Importance of Early Intervention

Early Intervention Supports Families

The FIRST WORDS® Project at Florida State University evaluates the communication development of children from 6 to 24 months of age. When we identify concerns in communication and language development, we encourage families to seek intervention as soon as possible. Early diagnosis and treatment for language delays increases the chances of improvement rather than simply “waiting it out” and treating problems later.



Earlier is Better

Treating language difficulties early on can prevent potential problems with behavior, learning, reading, and social interaction. Recent research on brain development reminds us that “earlier IS better” when teaching young children. By age 3, most of the major brain structures are mature, and it becomes more difficult to make significant changes in a child’s growth and development.

What can early intervention do for your family?

Provide resources, support and information

Early intervention provides parents with resources, supports, and information to enhance their child’s communication skills. Working together with a therapist trained in early childhood enables parents to feel confident that they are facilitating their child’s communication development.

Improve relationships

When language is delayed, understanding and interacting with other children will also be delayed. This makes it difficult to develop friendships, solve problems, and learn to negotiate conflicts. Through early intervention, children learn how to use language to convey messages, to express feelings, and to interact with their friends.

Improve behavior

Children with delayed communication development may get frustrated and exhibit challenging behaviors to compensate for their delays. It is difficult to express wants and needs when communication is delayed so often a physical response such as biting or hitting takes its place. Intervention will provide supports and strategies to facilitate your child’s communication needs.

Promote future success in school

Communication development sets the stage for literacy and influences later success in school. There is evidence sug-



gesting that having a good command of language goes hand-in-hand with the ability to imagine and to create new ideas and, eventually, to read and write.

Have fun with your child

Early intervention is based on a child’s play, incorporating activities that are fun for everyone! Intervention also brings the family a greater understanding of their child’s needs.

Though some children who are late in talking outgrow this delay, it is important to remember many need help to be able to communicate as expected for their age.

WHAT WE HAVE LEARNED FROM THE PAST 5 YEARS

The FIRST WORDS® Project is finishing its fifth year of funding and has established a liaison relationship with over 200 healthcare and childcare agencies and providers in Leon County who are distributing the Checklist. We have gathered over 5,000 Checklists and conducted follow-up evaluations on over 1,000 children. We have offered a menu of service options to families in our community. Over 100 families have attended our parent education workshops, over 250 families have participated in our infant-toddler play groups, and over 50 families have participated in individualized intervention.

Accuracy of our Early Identification Tools:

We have studied the relationship between our parent report Checklist and our Behavior Sample gathered between 12 and 24 months age and language outcomes at 2 and again at 3 years of age. Following are the results:

Measure	Sample Size	Sensitivity	Specificity	Overreferral	Underreferral
	True Positives	True Negatives			
Infant-Toddler Checklist with Behavior Sample	232	87%	76%	14%	5%
Infant-Toddler Checklist with 2-Year Outcome	246	81%	79%	14%	6%
Behavior Sample with 2-Year Outcome	197	81%	86%	9%	7%
Infant-Toddler Checklist with 3-Year Outcome	108	83%	70%	23%	4%
Behavior Sample with 3-Year Outcome	90	91%	77%	18%	2%

These findings indicate that our prelinguistic evaluation measures are more accurate for early identification of young children than commonly used tools. **These findings strongly support the validity of our evaluation measures and the importance of using a collection of language predictors, rather than the use of words alone, to improve early identification efforts.**

References:

Wetherby, A., Goldstein, H., Cleary, J., Allen, L., & Kublin, K. (2003). Early identification of children with communication delays: Concurrent and Predictive Validity of the CSBS Developmental Profile. *Infants and Young Children, 16*, 161-174.

Wetherby, A., Allen, L., Cleary, J., Kublin, K., & Goldstein, H. (2002). Validity and reliability of the Communication and Symbolic Behavior Scales Developmental Profile with very young children. *Journal of Speech, Language, & Hearing Research, 45*, 1202-1219.

Effectiveness of our Infant-Toddler Playgroups

We have studied the effectiveness of our Infant-Toddler Playgroup by comparing the performance of a group of 40 children whose parents attended our playgroup when their children were an average of 18 months of age with a control group of 30 children whose parent did not attend our playgroup. We found that the children whose parents attended playgroup showed significant increases in their prelinguistic communication based on our Behavior Sample gathered before and after playgroup, in contrast to no change in the control group over the same time interval. We also found that the children whose parents attended playgroup showed significantly higher receptive language than the control group at 2 years of age. **These findings provide evidence of the efficacy of our Infant-toddler Playgroups on children's language outcomes and underscore the importance of helping parents support their children's development early.**

Ongoing Longitudinal Study of Early Indicators of Language and Reading Problems in School

About one in three children experience significant reading difficulties in school. There is strong continuity between the skills with which children enter school and their later academic performance. Children who enter school with limited reading-related skills are likely to qualify for special education services. In spite of federal legislation for early intervention and special education for preschoolers, most children are not identified

with special education needs until they reach school age. Finding children with preschool language problems may improve early identification of children with reading difficulties. We are conducting a longitudinal study of the relationship between prelinguistic communication in the second year of life and language and emergent literacy outcomes at 4 and 5 years of age. We have received a research grant from the U.S. Department of Education, Institute of Education Sciences in collaboration with Dr. Christopher Lonigan in the Department of Psychology at Florida State University to conduct this study.

Research on developmental precursors to reading suggests that children's reading skills and difficulties in school can be predicted during the preschool years by three components of emergent literacy: 1) oral language skills, 2) phonological processing abilities, and 3) print knowledge. We have studied the relationship between prelinguistic communication measured during the second year of life and these three components of emergent literacy in 135 4-year old children followed longitudinally. We found that our prelinguistic measures were significantly correlated with oral language ($r=.58$), phonological processing ($r=.41$), and print knowledge ($r=.35$). These preliminary findings support the use of prelinguistic communication to predict language and emergent literacy outcomes at 4 years of age. We will be continuing this research and will follow 200 children until the age of 5. The findings from this study will provide important information linking prelinguistic predictors with language and emergent literacy outcomes through 5 years of age and will have important implications for very early identification of children at risk for reading problems.

Early Red Flags of Autism Spectrum Disorders

There is now mounting evidence demonstrating the effectiveness of intensive early intervention with a substantial proportion of young children with autism spectrum disorders (ASD) using a range of behavioral and naturalistic approaches. Research indicates that intervention provided before age 3 $\frac{1}{2}$ has a much greater impact than if it begins after age 5, which underscores the importance of improving early identification. In spite of the severity of the behavioral characteristics of most children with ASD, the average age for diagnosis in the United States is not until 3 to 4 years. Although there have been significant advances in genetic and biomedical research on ASD, there is currently no biological marker for either autism or ASD, therefore screening and diagnosis must be based on behavioral features.

Prospective Study of Children Later Diagnosed with ASD

We have conducted a prospective, longitudinal study to identify precise early indicators of ASD by examining videotaped communication samples collected during the second year of life in three groups of children: one with ASD (n = 18), one with developmental delays in which ASD is ruled out (DD; n = 18), and one with typical development (TD; n = 18). The participants in this study were drawn from a pool of 3,021 children recruited to the FIRST WORDS[®] Project by having parents complete the CSBS DP Infant-Toddler Checklist when their children were under two years of age. Children were assigned to groups based on the results of a follow-up diagnostic evaluation for ASD, which included the *Autism Diagnostic Observation Schedule*, the *Social Communication Questionnaire*, the *Vineland Adaptive Behavior Scales*, and the *Mullen Scales of Early Learning* (MSEL). The ASD and DD groups did not differ on their nonverbal or verbal developmental quotient.

To examine the accuracy of the Infant-Toddler Checklist for early identification of ASD, the agreement between children's screening outcomes on the Checklist was compared with their developmental outcomes. Seventeen of the 18 children in the ASD group or 94.4% were at risk, 15 in the DD group or 83.3%, and 2 in the TD group or 11.1%. Sensitivity or *true positives* was 88.9% when the ASD and DD groups were combined and increased to 94.4% when only the ASD group was examined with the TD group. Specificity or *true negatives* was 88.9%.

To identify early red flags of ASD, the videotaped samples from the second year of life were analyzed to compare differences between the three groups. **Nine RED FLAGS** distinguished the children with ASD from the children with DD and TD and **Four RED FLAGS** distinguished children with ASD and DD from children with TD:



Red Flags of Autism Spectrum Disorders and Developmental Delays in the Second Year of Life

ASD Red Flags	
Lack of showing	
Lack of coordination of nonverbal communication	
Lack of sharing interest or enjoyment	
Repetitive movements with objects	
Lack of appropriate gaze	
Lack of response to name	
Lack of warm, joyful expressions	
Unusual prosody	
Repetitive movements or posturing of body	
	ASD & DD Red Flags
	Lack of pointing
	Lack of playing with a variety of toys
	Lack of response to contextual cues
	Lack of communicative vocalizations with consonants

Conclusions

Children with ASD can be distinguished from those with DD and TD through systematic observation in the second year of life. The 13 red flags identified in this study include a combination of lack of typical behaviors and presence of atypical behaviors and contrast from those that have been identified in older children.

The combination of 1st stage screening for delay with the CSBS DP Infant-Toddler Checklist and 2nd stage screening for ASD with the 13 Red Flags identified from the videotaped samples was effective for early identification.

Reference

Wetherby, A., Woods, J., Allen, L., Cleary, J., Dickinson, H., & Lord, C. (accepted for publication). Early indicators of autism spectrum disorders in the second year of life. [Journal of Autism and Developmental Disorders](#).

HOW CAN HEALTHCARE AND CHILDCARE PROVIDERS HELP?

We need your help in detecting communication problems earlier in young children. You can help by giving our Checklist to parents of young children. Contact us and we will send you Checklists as needed. We are eager for you to give the Checklist to parents of any young child in Leon or surrounding counties, even if there are no concerns. With our grant funding, we are interested in gathering information about communication development from as **many families** as possible in this region. We are interested in both young healthy children and children whose families or service providers have concerns.

When should you be concerned if a child is not talking?

There is wide variation in the age that children begin talking and the rate that children learn to talk. This makes it difficult to decide when to be concerned if a child is not talking. The sounds and gestures children use to communicate and the ability to understand words and to play with objects provide important clues about the development of language.



Following are some important milestones to help sort out who to be concerned about:

❖ 9 months

Children express pleasure by smiling and laughing while looking at an adult. They use gestures and sounds to get help or attention.

❖ 12 months

Children respond by looking when an adult calls their name. At this age they use a variety of sounds and gestures to communicate and begin to use a few words. They are interested in doing things with objects like trying to drink out of a cup, eat with a spoon, and brush with a hairbrush.

❖ 15 months

Children are using lots of sounds, gestures, and a few words to communicate. Many will ask for help, show off, and point out interesting things to adults. They can follow simple directions and can stack 2-3 blocks.



❖ 18 months

Words are becoming the primary way many children at this age communicate. They can make more than 5 different consonant sounds (like m, n, p, b, t and d) and are using more than 10 different words. They are beginning to pretend with objects, for example, pretending to feed a doll or stuffed animal.

❖ 24 months

Children usually use more than 50 words and are combining words together to make simple sentences. They can put several actions together in their play, like stirring, scooping, and feeding a doll with a spoon.

What if families have concerns?

Families are often the first to raise concerns about their child's development. Concerns raised by the majority of families are warranted, and therefore, it is important to give the Checklist to any family that has any concern about their child's communication development. Some families have concerns about their child, but their child is developing typically. It is important to reassure those families and answer questions that they may have about their child's development. For these families, we can monitor their child's development with our Caregiver Questionnaire to make sure their child is progressing as expected and provide information about typical development.

What if families are not yet concerned?

Some children are delayed but families are not yet concerned. It can be difficult for parents to learn that their child is not developing as expected. It is important not to alarm families and to offer support as concerns are raised. It can be confusing to families if one professional tells them that their child is doing fine and another indicates concern. You can help by becoming familiar with early indicators of communication problems. We will try to obtain a release of information from families who you refer and/or serve so that we can send you a copy of our written reports. In this way you can know which children you refer need monitoring and/or intervention. If we can provide intervention early, the child's chances for improvement are much greater.

FIRST WORDS® Project

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Referral Sources in Our Community

If you have concerns about a child's development, refer that child for a screening or developmental evaluation. These services are publicly funded and therefore are at no charge to families.

- ❖ For screening and evaluation of children 6 to 24 months, refer to:

FIRST WORDS Project
625-B North Adams Street
Tallahassee, FL 32301
Phone: (850) 488-5780

- ❖ For evaluation of children birth to 36 months, refer to:

**Children's Home Society
Early Intervention Program**
1801 Miccosukee Common Dr.
Tallahassee, FL 32308
Phone: (850) 921-0330

- ❖ For screening and evaluation of children 3 to 5 years of age, refer to:

**Child Find
Leon County Schools Pre-K Diagnostics**
2757 W. Pensacola St.
Tallahassee, FL 32304
Phone: (850) 921-5407



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Florida State University
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