# Speech and Language Screenings in Head Start Programs: A Descriptive Study

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## Abstract

Screening procedures typically are quick assessments intended to identify students with a baseline performance qualifying them for services. Effective screening measures have strong specificity, and in turn, students in need of services are identified as true "fails." Previous studies have investigated sensitivity and specificity levels of screenings measures, demonstrating a reduced level of specificity, creating an inflation in the results of false positives. The objective of this study was to investigate the effectiveness of speech and language screening measures in pre-school children enrolled at Head Start programs and the follow-up that occurs as a result of these screenings and discuss methods to maximize desirable outcomes for children. A total of 139 files with information on follow-up of services were evaluated. The majority of files lacked any evidence regarding follow-up as well as the reception of services. The study leads to suggestions for revisions to aid in improvements of the current screening set-up and, more importantly, follow-up process. These include, but are not limited to: bilingual translations, the importance of speech and language advocacy in early development; a FAQ sheet for parents, revised pre-screening/consent, and final report post-screening forms.

**Keywords:** speech screenings, language screenings, preschool children, early intervention

## 1. Introduction

Head Start programs in the United States promote school readiness of children ages birth to five years from low-income families by supporting their development in a comprehensive way. Pre-school age students enrolled in these programs receive annual speech and language screenings to determine if their current performance is commensurate with typical development milestones for their age. A screening can be defined as an active process that facilitates the early identification of a disease or a disorder (Stott, Merricks, Bolton & Goodyear, 2002). The purpose of a communication screening is to test a select population with a brief but discriminating procedure, with the intention of identifying those with significant communication problems (Emerick & Hatten, 1979). The screening should produce red flags that indicate a possible deficit requiring additional services, such as a comprehensive evaluation of communication (Sturner, Layton, Evans, Heller, Funk & Machon, 1994).

Early identification is important in distinguishing pre-school children who may be in need of, and therefore, eligible to receive speech and/or language services from those who are typically developing in their speech and/or language skills. It is difficult to determine at exactly what age a screening measure is most effective, but some indicate that effectiveness is optimal between the ages of two and five years old (Law, Boyle, Harris, Harkness & Nye, 1998). Children can quickly fall behind their peers when these early developmental milestones are found to be delayed or absent. If they proceed unidentified, these children are at a higher risk for learning disabilities once they reach elementary school and higher levels of education. Academic performance can be impacted by difficulties with reading, writing and spelling due to speech and/or language delays/impairments. Struggles in school can lead to behavioral problems and difficulty adjusting in social situations (Nelson, Nygren, Walker & Panoscha, 2006).

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Therefore, early identification via screening is a critical piece in getting appropriate services for young children. Head Start programs are designed to prepare children from ages three to five years for the transition from preschool to kindergarten by helping them meet developmental milestones (Puma, 2010). There is a strong focus on teaching speech and language skills, where educators provide instruction on early reading skills and vocabulary development in addition to encouraging healthy relationships among peers. Skills learned in school should be supported and expanded in the home environment. Communication skills taught at Head Start programs allow children to reach expected milestones required for a successful experience in school.

An important goal for Head Start programs is to involve caregivers and family members in the teaching process (Puma, 2010). Family-centered practice supports the important role that family members play in prevention, assessment, and treatment of their loved ones. Their perspectives should always be considered. In the case of minors in Head Start programs, adult family members play an even bigger role. Family-centered practice encourages the speech-language pathologist (SLP) and other professionals to be aware of the family system in terms of values, priorities, culture, socioeconomic status (SES) and other factors in choosing appropriate assessments. Family members should always be involved in the decision-making process. SLPs should teach family members strategies and techniques to help their child in the home and community environment. Family members can learn interaction skills to help support and develop the speech and language of the child, and questions and concerns are readily addressed. By implementing the above, an SLP can establish rapport and a trusting relationship with families and children, with the ultimate goal of strengthening the child's communication skills.

According to Greenslade, Plante & Vance (2009), screenings can produce the following types of productivity data: (a) sensitivity/true-positive, which is the accurate identification of children with a language impairment; (b) specificity/true-negative, which is the accurate identification of children with typical language development. In Plante and Vance's (1994) discussion of preschool language tests, they recommended a criterion of 90%–100% for sensitivity and/or specificity for the measure to be considered "good", while a criterion of 80%– 89% for sensitivity and/or specificity was recommended for the measure to be considered "fair." It is difficult to maximize sensitivity and specificity simultaneously. A screening measure that maximizes sensitivity might have 90% sensitivity and 70% specificity. Conversely, a screening measure that maximizes specificity might have 70% sensitivity and 90% specificity (Law et al., 1998).

Some screening manuals contain information concerning psychometric measures. Others are missing that information so clinical evidence is not readily available (Greenslade et al., 2009). This data is important for helping SLPs choose the most appropriate screening measure. Sturner and colleagues (1994) reviewed 51 speech-language screening tests. They found that the *Sentence Repetition Screening Test* (SRST) was the only test that listed sensitivity, specificity, predictive validity, percent agreement, and over- and under referral values, which are all important for choosing the most effective screening test (Sturner et al., 1994). There is a need for more studies to establish psychometric measurements available such as: sensitivity, specificity, interrater and test/retest reliability, internal consistency and correlation and classification validity (Sturner et al., 1994; Klee, Pearce & Carson (2000) and Camilleri & Law (2001)) in order to help professionals best choose a screening measure.

Law and colleagues (1998) stated that the effective use of screenings to identify students with significant deficits will result in maximizing resources and directing it to students with needs. However, in reviewing previous studies, it appears that screening measures are in fact over identifying students (Shraeder, Quinn, Stockman & Miller, 1999; Shraeder et al., 1999; Laing, Levin, Law & Logan, 2000; Camilleri & Law, 2001). It is important to maximize finite resources in order to direct it to students that need it most. More students are being referred for further assessments than are going on to receive services. Many studies have been conducted regarding the reliability, validity, efficacy, and accuracy of individual speech and language screening measures (Camilleri & Law, 2001; Greenslade, 2009; Klee et al., 2000; Nelson et al., 2006; Pickstone, 2003; Plante, & Vance, 1994; Schetz, 1994; Stevenson, 1984; Stott, et al., 2002; Sturner, 1994).

There is a gap in the literature regarding the effectiveness of speech and language screening measures in pre-school children enrolled at Head Start programs and the follow-up that occurs as a result of these screenings. As a result, the purpose of this study was to gain additional insight into the effectiveness of screening measures in Head Start programs and discuss methods to maximize desirable outcomes for children.

## 2. Methodology

The study was reviewed and approved by the university's Institutional Review Board for human subject research. Data were collected on screenings performed at two Head Start programs over a two-year period. These screenings had been performed by graduate students, supervised by a certified and licensed speech-language pathologist. The graduate students were in a speech-language pathology program. Data were obtained by reviewing the children's files, which were housed in the university speech-language clinic and the Head Start programs.

Student identity was cross checked and confirmed by date of birth. Scores were then matched up with those in the file for confirmation of the schools' records. Next, researchers searched for evidence of follow-up in the designated section of each file. File reviews were performed to track those who received further assessment (i.e., a full evaluation) as recommended by the screening assessment, as well as those currently receiving (or who received) speech and/or language services (therapy).

Assistance in obtaining the children's files for review was provided by two Head Start professionals, both of whom had access to the files. Speech and language services are not provided at the Head Start centers, but at recommended outside locations; therefore, the decision to pursue and receive additional services, such as a comprehensive evaluation and therapy if warranted, is left entirely up to the parent or guardian.

## 3. Results

Within a two-year period, 139 children between the ages of three and five years were screened at the Head Start locations. Of these children, 67 were boys and 72 were girls. Of the 139 files reviewed at these locations, 11 were categorized as "could not complete" (CNC) due to complicating factors (i.e., child did not wish to cooperate); 68 files indicated that the children's scores required follow-up services, denoted by an F (Fail) in one or both areas (speech, language) and 28 files scores were recommended for a rescreening (RS) in one or both areas. The remainder received passing scores (Figure 1).

Figure 1. Screening scores: Passing, Could Not Complete, Fail, and Re-Screen numbers
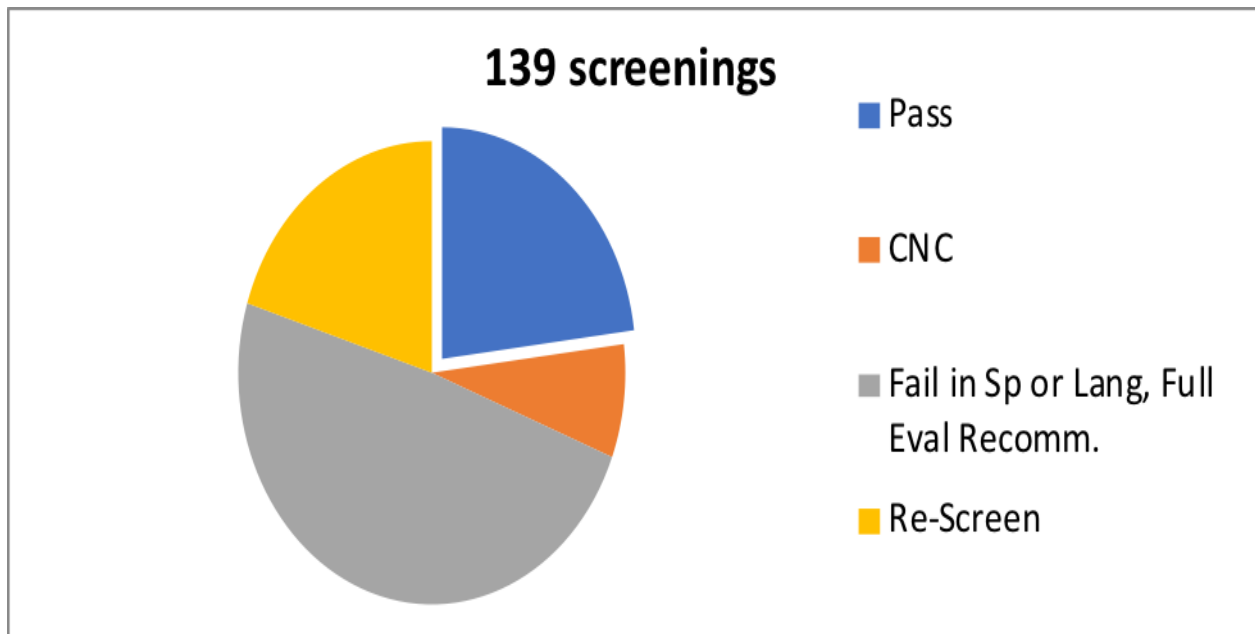


Overall, the majority of children who were noted to have "fail" or "re-screen" results, received these outcomes as a result of a poor performance in language, and language fails were more than double those of rescreen results. However, in speech, fail and re screen scores were almost equal. Results indicated that only 6% of children failed the speech portion while 47% of children, failed the language portion (Figures 2, 3, and 4).

Figure 2. Comparison of Passing scores, Fails (recommendations for Full Evaluation), and Re-Screening for Speech, compared to Language performance in 139 screenings
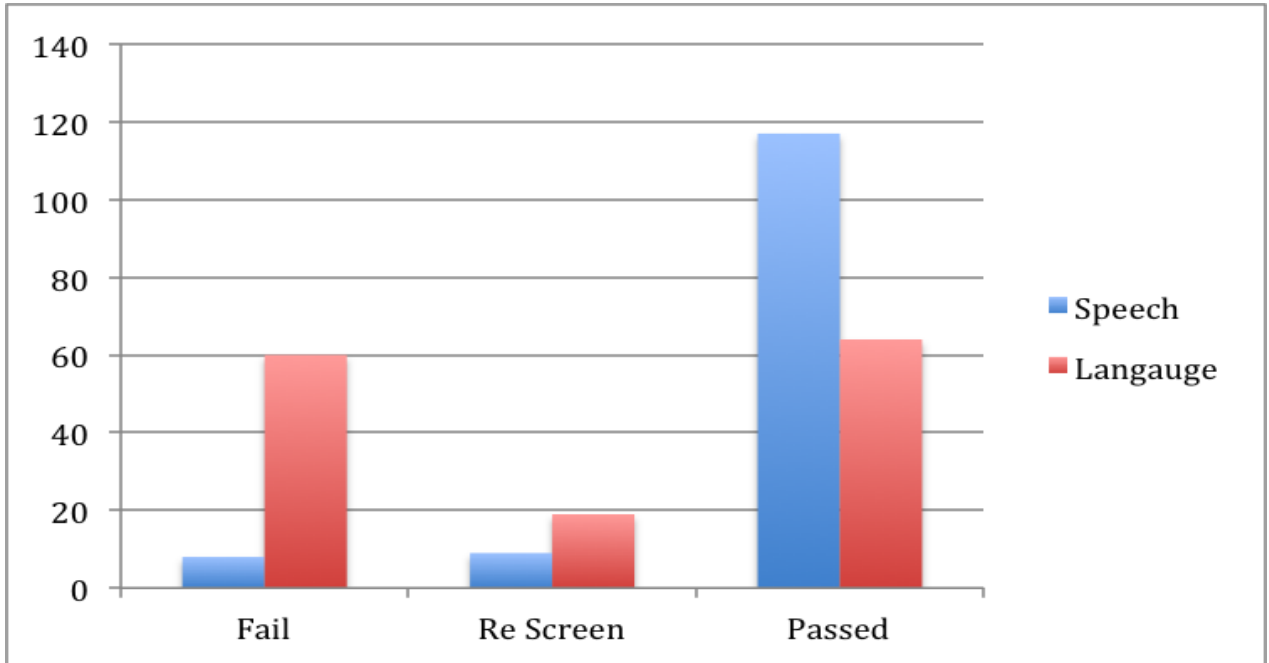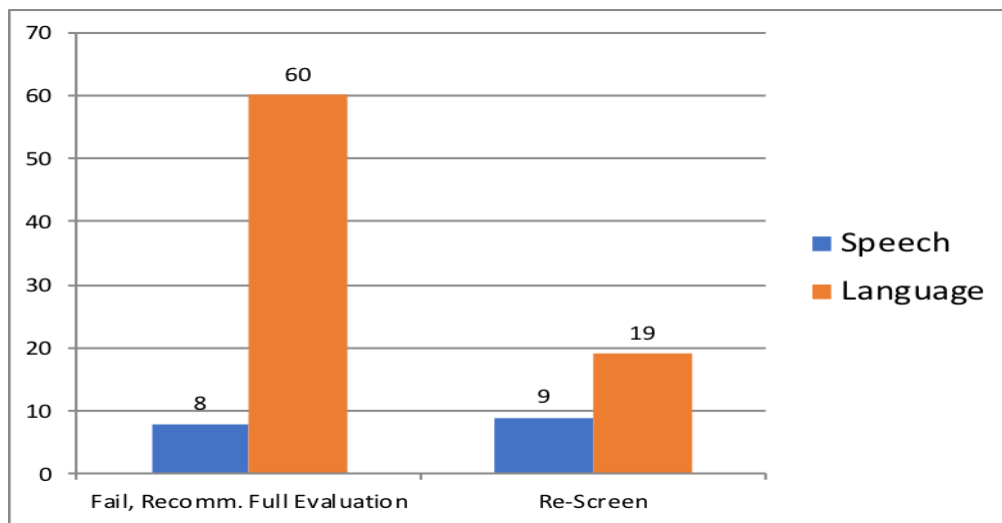


Figure 3.  Comparison of the numbers for recommendations for Full Evaluation (fails) vs. Re-Screening for Speech, compared to Language performance in 139 screenings
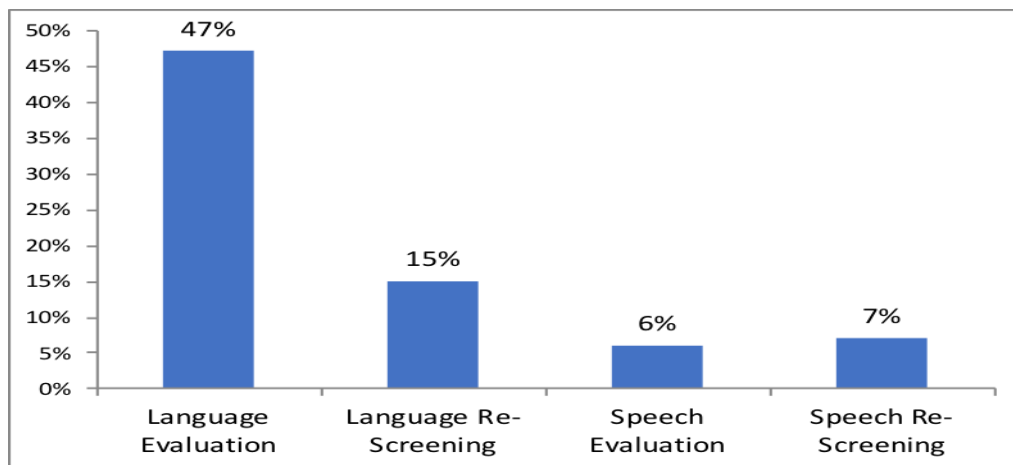
Figure 4. Percentages of the recommendation for Evaluation and Re-Screening by category (Language, Speech)

Those who failed were recommended for a full evaluation; ideally, researchers would have calculated the percentage of students with failed scores who went on to qualify and receive speech and language services, had this follow-up information been present. Unfortunately, the files at the Head Start locations did not contain any formal records regarding follow-up full evaluations or follow-up services, as recommended in the initial screening. Only 5 files contained some form of documented communication between the school and the family regarding follow-up services (i.e., notes of a conference call, letter sent to the child's home, etc.). Upon finding limited evidence of follow-up, researchers consulted with one of the professionals at the Head Start location and she noted that a lack of follow-up is not uncommon due to understaffing. It was noted that parents were instructed to submit some form of documentation to the school if a child received outside services.

Children with screening scores from consecutive or multiple years were compared to observe trends. This also allowed insight into the educational impact of the Head Start programs. For example, students that show improvement help support the positive role that Head Start programs play in a child's education. In comparison, students that show a decline between years, may need more specialized attention, in addition to what the Head Start program offers, to improve their speech and language skills. The following is a summary of these findings with regard to score improvement/decline over multiple semesters' screenings:

- 5 students showed an improvement: 4 went from "fail" to "rescreen" in language and 1 went from "fail" to "pass" in speech.
- 3 students showed a decline in scores: 1 went from a "pass" to "rescreen" in speech and 2 went from "rescreen" to "fail" in language.

Lastly, it was uncertain if and how caregivers were made aware of their child's performance on the screening and whether they were informed about the need for follow-up services if their child did not pass the screening.

## 4. Discussion

The purpose of this study was to gain additional insight into the effectiveness of speech, language, and hearing screening measures in Head Start programs so as to maximize desirable outcomes for children. Due to the lack of follow-up information in the files, it was not possible to determine whether, per screening recommendation, the children received a comprehensive evaluation or whether failing a screening led to additional speech and language services. As a result, screening sensitivity was inconclusive. Because of this finding, the study resulted in ideas about ways to improve the efficacy of future screenings in Head Start programs.

One improvement could include more active, ongoing follow-up communication between the Head Start programs, the families, and the agency conducting the screenings. It is vital that SLPs collaborate with families and other school professionals in this process, as all play a role in working towards relevant goals when deficits are identified. Early screening measures were designed to identify and remediate deficit areas early on, before a domino effect is created; therefore, communication with caregivers is a pivotal point in the process. It is beneficial to actively involve family members in the planning and implementation process of screenings, evaluations, and treatment. Family members can also help with carryover of skills.

SLPs typically work with the child study team, regular and special education teachers, and if needed, occupational and physical therapists, psychologists and social workers, to optimize carryover and generalization of skills. SLPs aim at providing services that support the school curriculum (Ehren et al., 2010).

Leadership opportunities include advocacy, professional development, and parent training. SLPs are responsible for advocating for appropriate services and programs for current and future clients. It is necessary to explain the SLPs' roles and responsibilities to other professionals, administrators, families and the community. Topics for parent training might include an overview of communication development and disorders as well as answering specific questions relevant to a child's needs. With more knowledge concerning speech and language services, family members can help establish a "language and literacy-rich environment" (Ehren et al., 2010).

Another important role is for both monolingual and bilingual SLPs to provide "culturally competent services" when working with bilingual or multilingual clients (Ehren et al., 2010). Many children in Head Start programs come from culturally and linguistically diverse (CLD) backgrounds and may be more proficient in a language other than English. SLPs need to differentiate language/articulation disorders from dialects and language/articulation differences and assess appropriately. Poor performance on screening measures may be due to cultural and linguistic differences, socioeconomic status, or poor baseline speech and language skills. Separating disorder versus difference is necessary for appropriate identification, prevention and treatment of student needs. In addition, SLPs can help teachers provide children who have language differences the support they need to succeed. Often, English as a Second Language (ESL) teachers are involved as well (Ehren, 2010; ASHA, 2004).

The Office of Minority Health (OMH) is an excellent resource that addresses adequate use of health care services and the barriers that exist for promoting and implementing such services. As a part of the U.S. Department of Health and Human Services (HHS), OMH describes the meaning of "cultural competence" and how service providers can become more aware and educated on the topic. Cultural competence encourages appropriate care for individuals from varying racial, ethnic, linguistic, religious and social groups. Cultural and linguistic differences impact an individual's health-related decisions and responses to professional opinions and services. Differences in opinion and lack of communication and understanding can lead to unfair treatment of linguistic minority groups. According to the National Quality Forum (NQF, 2011), advancements in cultural competence can help decrease misunderstandings and improve patient compliance as well as overall health care effectiveness. The National Partnership for Action to End Health Disparities (NPA [NPA, n.d.]) was designed to help improve nationwide open, continuous communication involving strategies and actions to eliminate disparities and establish equality. The NPA has five important goals: improve awareness, leadership, health outcomes, cultural and linguistic competency and research usage and availability (HHS, 2013).

Also, as of July 1, 2012, recent standards established by The Joint Commission (a non-profit organization that accredits and certifies more than 20,000 health care organizations and programs in the United States) emphasize the need for cultural competence in improving healthcare communication. Federal laws are put in place to enforce ethical practice in the case of health care providers (i.e., Age Discrimination Act of 1975, Title VI of the Civil Rights Act of 1964). The goal is to ensure that patient rights, including adjustments made to adhere to a patient's cultural and linguistic needs, be maintained to prevent litigation and discrimination (HHS, 2013; Joint Commission, 2014). (Additional information regarding standards, can be found in Appendix C in "Advancing Effective Communication, Cultural Competence, and Patient-and Family-Centered Care: A Roadmap for Hospitals," at www.jointcommission.org/Advancing_Effective_Communication.)

When clinicians administer screening measures, many are not proficient in Spanish or other language speakers. Thus, recommendations are often given to rescreen a child in their native language. A future change can be that prior to arrival, administrators and teachers at the Head Start program can provide lists of students who do not speak English or are in the process of learning English as a Second Language (ESL; they are English Language Learners, or "ELLs"). This way, arrangements can be made to best accommodate those students. It would be most beneficial and time efficient to have an interpreter present to help administer testing. Teacher assistants are sometimes available to help translate portions of the English assessment for students who are developing their English language skills or to help monolingual graduate students properly articulate and interpret the Spanish screening.

SLPs should maintain awareness of the demographics and socioeconomic status of students, family members and service providers. Some families may not be aware of what services they can obtain or they may not have access to what they need.

SLPs can work with healthcare providers to increase cultural awareness and knowledge about health services available. Parents can also provide some insight into such topics and in particular explain what they currently need. The goal is to narrow the gap between the level of educational, speech and language services provided to those from all different demographics and backgrounds.

This study is limited by the cross-sectional design and the geographic restriction of the sites included in this study.  Further, the small sample size and contingency of the results on documentation available at the time of the study limit generalizability. Nevertheless, this study fills a gap in the literature.  At Head Start programs, parents provide written agreement for the administration of the screening. However, this does not confirm their understanding of what the screening entails and how to interpret the results sent home. For any parent, reading a report that states that their child has "failed" in any area is difficult to process. It is necessary to dismiss the negative connotation that receiving speech and language services implies that a child has a disorder. Services may only be required in order to boost the child to the same level of performance as his or her same age peers.  To help remediate this problem, university clinics or agencies can provide a document relaying pertinent information about the screening process.

Further, with the assistance of translators and online services, these forms should be available in the caregivers' native language.  Parents of children who are ELLs, typically are speakers of English as a Second Language themselves, and some may have a poor command of the language, so SLPs are encouraged to consider that and offer accommodations (Kollia & Takemoto, 2015). Information conveyed may include: the purpose of the screening, linguistic material addressed/tested, approximate screening time, definitions of possible results (i.e., the difference between a rescreening and a full evaluation), and types of services available, should a deficit be detected. Parents can indicate whether they understand the screening process and be clear that they have the option to contact the clinic with further inquires (i.e., concerns for their child). In addition, modifying the overall layout of the final report sent to parents can provide a simpler and easier to read format. Changes include less detail (to enhance understanding of the most important details, and show the document as reader friendly), examples, and a bullet point versus paragraph style (Kollia & Takemoto, 2015).  Additionally, university clinics can provide two copies of the final reports, with one copy addressed to the caregiver, and another specifically for the child's file; both containing the same information. Questions regarding a child's specific performance during the screening can be easily obtained through contact with the university clinic or agency.

Clinicians can also provide in-service seminars and Q&A sessions/handouts to discuss the screening process. This will provide an opportunity for both educators and parents to ask questions and express their concerns and for clinicians to educate both parties about being an advocate for the child. Handouts for parents can help explain speech and language development as well as an SLP's role in the school. Brochures and lists of other online resources can be handed out that are geared toward family members. To increase the ease and regularity of follow-up, clinicians can communicate with outside locations performing full evaluations and re-screening measures. All adjustments made for screening procedures, report writing, seminars/Q&A, follow-up processes, etc. can be designed to promote awareness of the reasons that  this process and results yielded are important to parents as advocates. In encouraging caregivers to advocate for their children, SLPs should advocate for caregiver education. During the seminar, verbal and written information can be provided regarding the services that the university clinic can provide for children with speech and language difficulties.

Overall, these recommendations can help Head Start programs and professionals who work with children's communication skills develop a more effective way to conduct screenings and communicate the importance of early identification and the benefits of receiving speech and/or language services. These improvements can help support the effectiveness and importance of Head Start programs.

## References

American Speech-Language-Hearing Association. *Family Centered Practice*. Retrieved from
       http://www.asha.org/Practice-Portal/Clinical-Topics/Autism/Family-Centered-Practice.
American Speech-Language-Hearing Association (2004). *Knowledge and skills needed by speech-language pathologists and audiologists to provide culturally and linguistically appropriate services*. Available from www.asha.org/policy.

Camilleri, B. & Law, J. (2001). Screening for speech and language impairment: A follow-up study of true negatives and false positives. *International Journal of Language and Communication Disorders,* 36, 493-98.

Ehren, B., Block, F., Crowley, C., Estomen, E., Goldman, S. A., Karr, S., Shulman, B., Noel, J., & Adamczyk, D. (2010). *Roles and Responsibilities of Speech-Language Pathologists in Schools.* Retrieved from http://www.asha.org/docs/html/PI2010-00317.html#sec1.2

Greenslade, K.J., Plante, E., & Vance, R. (2009). The diagnostic accuracy and construct validity of Structured Photographic Expressive Language Test- Preschool: Second edition. *Language, Speech and Hearing Services in Schools,* 40(2), 150-60.

Joint Commission (2014). *Advancing Effective Communication, Cultural Competence, and Patient-and Family-Centered Care.* Retrieved from http://www.jointcommission.org/Advancing_Effective_Communication.

Klee, T., Pearce, K., & Carson, D.K. (2000). Improving the positive predictive value of screening for developmental language disorder. *Journal of Speech, Language, and Hearing Research,* 43, 821-33.

Kollia, B., & Takemoto, C. (2015). Culturally and Linguistically Diverse / Linguistic Minority Populations: Health Literacy and Access to Health Care Services.

Law, J., Boyle, J., Harris, F. Harkness, A., & Nye, C. (1998). Screening for speech and language delay: a systematic review of the literature, *Health Technology Assessment,* 2(9), 1-184.

National Partnership for Action to End Health Disparities (n.d.) About the NPA. Retrieved From: https://minorityhealth.hhs.gov/npa/templates/browse.aspx?lvl=1&lvlid=11

National Quality Forum (2012). Healthcare Disparities and Cultural Competency Consensus Standards Technical Report. Retrieved From: https://www.qualityforum.org/Pu blications/2012/09/Healthcare_ Disparities_and_Cultu ral_Comp etency_Consensus_Standards_Technical_Report.aspx

Nelson, H.D., Nygren, M.W., & Panoscha, R. (2006). Screening for speech and language delay in preschool children: Systematic review for the U.S. Preventative Services Task Force. *Journal of the American Academy of Pediatrics,* 117(2), 298-319.

Pickstone, C. (2003). A pilot study of paraprofessional screening of child language in community settings. *Child Language Teaching and Therapy,* 19(1), 49-65.

Plante, E. & Vance, R. (1994). Selection of preschool language tests: A data-based approach. *Language, Speech and Hearing Services in Schools,* 25, 15-24.

Schetz, K.F. (1985). Comparison of the Compton Speech and Language Screening Evaluation and the Fluharty Preschool Speech and Language Screening Test. *Language, Speech and Hearing Services in Schools,* 16, 16-24.

Schraeder, T., Quinn, M., Stockman, I.J., & Miller, J. (1999). Authentic assessment as an approach to preschool speech-language screening. *American Journal of Speech-Language Pathology,* 8(3), 195-200.

Stevenson, J. (1984). Predictive value of speech and language screening. *Developmental Medicine and Child Neurology,* 26, 528-38.

Stott, C.M., Merricks, M.J., Bolton, P.F., & Goodyer, I.M. (2002). Screening for speech and language disorders: The reliability, validity and accuracy of the general language screen. *International Journal of Language and Communication Disorders*, 37(2), 133-51.

Sturner, R.A., Layton, T.L., Evans, A.W., Heller, J.H., Funk, S.G., Machon, M.W. (1994). Preschool speech and language screening: A review of currently available tests. *American Journal of Speech-Language Pathology,* 3, 25-36.

U.S. Department of Health and Human Services: Administration for Children and Families (2010). *Head start impact study: Final report.* Washington, DC.

U.S. Department of Health and Human Services: Office of Minority Health (2013). Retrieved from minorityhealth.hhs.gov