

## **Early Intervention On Receptive And Expressive Language Development Among Children With Hearing Impairment In Rivers State**

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**ABSTRACT:** *This study investigates the importance of early intervention on receptive and expressive language development among children with hearing impairment in Rivers State. A descriptive design was used to carry out the study with a sample size of three hundred (300) caregivers and parents drawn from urban centres in Obio/Akpor and Port Harcourt Local Government Areas of Rivers State, Nigeria through a convenience sampling technique. The study employed a survey design in which the instrument for data collection was validated and tested for reliability, with a reliability index of 0.79 determined through Pearson Product Moment Correlation. Mean score and standard Deviation were used to answer the research questions while Analysis of Variance (ANOVA) was used to test the hypotheses at the level 0.05 level of significance. Findings confirmed that time of identity is important at the improvement of the expressive and receptive language ability amongst youngsters with hearing impairment in Rivers State; there is a significant effect on the age of intervention on the development of expressive and receptive language capacity amongst kids with hearing impairment in Rivers State and also the study found out that if intervention is early enough, the impairment can be adequately managed and its effect minimal. Based on the findings of the research, some suggestions given among others were that mothers, fathers as well as caregivers should endeavour to find out the problem of their kids for early analysis on suspicion of expressive language impairment.*

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### **I. Introduction**

Children are a gift from God; unfortunately, some children after birth are seen to many as a curse rather than a gift from God. Many of such children are either born with hearing impairment or acquire it at their early stage of growth. It can however, be speculated that the burden of hearing impairment is great and growing across the globe. It is a principal public health task in the world, even when diagnosed as mild— has a negative effect on speech–language development in hearing-impaired children, and delays acquisition of linguistic, social, academic, and sensory abilities. In this light, recognizing the importance of every child, whether impaired or not and the need to cater for them becomes necessary.

Children with hearing loss are those who in the course of their growth develop mental health problems which affected their ability to understand spoken language and as well speak effectively. While receptive and expressive language development are strongly related to the auditory sense, speech and language development are prerequisites for cognitive development, as such, an auditory defect may affect and impair the hearing-impaired child's cognitive ability (Briscoe, Norbury, & Bishop, 2001). Receptive and expressive language development is a humanized skill which is acquired gradually during a defined step-by-step process. Language is acquired through daily life interactions without any training in normal-hearing children. Hearing loss hampers this process and causes language disorder.

Difficulties in communication as a result of a child's failure to develop receptive and expressive language ability have an adverse effect on all aspects of the child's life, starting with the fulfilment of basic needs and extending to the realms of education and participation in family and community life. The nature and severity of the difficulty, as well as the time of onset have a crucial influence on the intensity of the impact. Difficulties in communication may arise from the presence of disabilities that are sensory, intellectual, emotional behavioural, or motor in nature. These disabilities may occur at birth or at early developmental stages, or even later in life. The impact is profound and enduring when they occur early in an individual's life. In such situations, early identification as well as timely intervention could go a long way in easing the adverse effects and enabling near- normal development (Downs & Yoshinaga-Itano, 1999; Yoshinaga-Itano, 2003; Vohr, 2008).

Early identification in the context of this study refers to the timely medical evaluation carried out on a child to uncover illnesses, and impairments before treatment is provided. In the case of the early identification of hearing impairment in children, evaluation may be formal or informal and include any combination of standardized tests; direct observation of play and interaction with caregivers; report by parent, teacher, or physician; and collection and detailed analysis of spontaneous speech samples. Several sessions as well as ongoing evaluation may be required to obtain enough information to make an accurate diagnosis. The early identification team may consist of the speech-language pathologist, audiologist, psychologist, neurologist, electro-physiologist, otolaryngologist, paediatrician, nurse, and social worker. Because hearing delays and disorders may be due to a variety of causes, each professional makes valuable contributions to the evaluation. From the results of the evaluation, certain services may be recommended.

## **II. Statement of the Problem**

Hearing loss is a disabling condition in children that reduces the resolution capability of speech inquiry and disturbs the correct understanding of speech and learning. Each year, babies are born with bilateral hearing impairment or obtain it in the early months of infancy. On an average, it can be estimated that about 2000 children with hearing impairment are born every day or obtained during the early months of infancy. Failure to detect hearing loss in its initial stages can negatively affect speech, language, cognitive and psychosocial development, and consequently, damage vocational attainment, particularly during the growth period. In addition, hearing loss leads to unpleasant experiences in families and expose them to stress. The birth of a child with hearing loss has a feeling for parent which looks like an experience of bereavement. Therefore, among all sensory disabilities in early childhood, permanent hearing damage from birth or during infancy is an important issue. Also, for the reason that, of the many superstitions and myths that have enveloped the Nigerian society with regards to children born with hearing loss, educating families with a child with hearing loss can be challenging. This is because, with early interventions, parents and caregivers are used as the providers of medical services.

In view of the fact that hearing loss is mostly acquired from birth, or rather obtained in the early months of infancy, it is expected that there will be an increase in the case of the impairment. It is unfortunate to note that, research investigations that have been carried out on children with the challenge of hearing and speaking (either partial or permanent) have suffered setbacks on methodology of intervention, thus raising questions of the reliability of their findings. It is based on this backdrop that this study is considered necessary, as it investigates the impact of early intervention on receptive and expressive language development among children with hearing impairment in Rivers State.

### **Purpose of the study**

The purpose of this study is to investigate the impact of early intervention on receptive and expressive language development among children with hearing impairment in Rivers State. Specifically, the objectives of the study are to:

1. Determine the relevance of time of identification on the expressive language development among children with hearing impairment in Rivers State.
2. Examine the significance of time of identification on the receptive language development among children with hearing impairment in Rivers State.

### **Research Questions**

The study is guided by the following research questions:

1. What is the relevance of time of identification on the expressive language development among children with hearing impairment in Rivers State?
2. What is the importance of time of identification on the receptive language development among children with hearing impairment in Rivers State?

### **Hypotheses**

The following null hypotheses are formulated and will be tested at the 0.05 level of significance.

1. There is no significant relevance of time of identification on the development of expressive language ability among children with hearing impairment in Rivers State.
2. There is no significant importance of time of identification on the development of receptive language ability among children with hearing impairment in Rivers State.

## **III. Review of Relevant Literature**

### **Language Development**

Language development increases through the growth of the children. Parents should always pay attention to these developments, since it will determine the learning processes. This can be done by giving a good example

to motivate children to learn and so forth. Parents are greatly responsible for the success of children's learning and should always strive to improve their children's potentials in order for them to develop optimally.

Language is any form of communication in which a person's thoughts and feelings is symbolized in order to convey meaning to others. Furthermore, language development starts from the first cry until a child is able to speak a word.

### **Child Language Development**

#### ***Nativism***

Chomsky (1959) says that an individual is born with a tool to master the language (Language Acquisition Device/LAD) and find his own ways of working with the language. In learning the language, people have an innate ability to detect grammatical category for specific language such as phonology, syntax and semantic. The nativist argues that the language was too complex and cumbersome, making it impossible to be learned in a short time through methods, such as impersonation or imitation. This tool is a gift that has been biologically programmed to specify the items that may be of a grammar. LAD is regarded as a physiological part of the brain specialized for language processing, and is not related to other cognitive abilities. Nativist believes that the ability to speak is influenced by the maturity of the brain along with the growth of children thus, they separate the language learning process from cognitive development. However, it was criticized with regard to the fact that children learn the language from the environment and have the ability to change the language if the environment changes.

#### ***Behaviouristic***

According to the behaviourists, ability to speak and understand the language of children is obtained through stimulation from the environment. Children as passive recipients of environmental pressures, have no active role in the process of development of verbal behaviour. The behaviourist not only does not recognize the active role of the child in the language acquisition process, but also does not recognize the maturity of the child. The process of language development is mainly determined by the length of training provided by the environment. The actual ability to communicate is with the principle of linkage S-R (Stimulus - Response) and a process of imitation. Behaviourists found children born without having any ability. Thus, the child must learn through conditioning of the environment, the process of imitation, and given reinforcement. Behaviourists looked at the development of language from the point of stimulus-response, which saw thinking as an internal process of language that is conditioned by interactions in the environment.

#### ***Cognitivism***

According to Jean Piaget, thought as a prerequisite to speak, continues to grow progressively and occur at every stage of development as a result of the experience and reasoning. Children's development in general and at early language is closely related to a variety of children's activities, attractions and events they experience; and touch, hear, see, feel, and smell.

Vygotsky argued that the children's cognitive development and language is closely related to the culture and the communities in which children live. Vygotsky used the term Zone of Proximal Development (ZPD = Zone of Proximal Development) for tasks that are difficult to be understood by children. ZPD has a lower limit for the level of the problem being solved by children themselves and a higher threshold for the level of extra responsibility can be accepted children with the help of adults.

### **Expressive and Receptive Language Development**

Language is a form of social behaviour shaped and maintained by a verbal community. A language impairment occurs when there is a significant deficiency not consistent with the student's chronological age in one or more of the following areas: a deficiency in receptive language skills to gain information, a deficiency in expressive language skills to communicate information, a deficiency in processing (auditory perception) skills to organize information. Specifically, a language impairment may include a deficiency in one or more of the components of language; phonology, morphology, syntax, semantics, and pragmatics. Morphology is the study of word structure and includes the use of grammatic structures such as regular past tense/plural, possessives, etc. Syntax is the arrangement of words to form meaningful sentences. Semantics is the meaning of words, and includes vocabulary development. Children with a semantic language disorder may have difficulty with category naming, multiple meaning words, figurative language, antonyms/synonyms, etc. Pragmatics is the use of language in social situations. This includes maintaining a topic, taking turns with the other speaker, etc. When we look at language, we divide into two parts; *Expressive and Receptive Language*. Generally, receptive language develops before expressive language. For a child to be able to communicate and learn they need to be able to understand spoken language. A child will have difficulty talking or responding to a question logically if they are unable to understand what has been said. For this reason, it is important that a child is given the opportunity to develop their receptive language skills before focusing on their expressive

skills. Providing a child with a language rich environment is the best way to develop a child's receptive language. *Expressive language* refers to the ability to verbally express words to convey a message. Children's expressive vocabulary will continue to grow as they learn how to use new words. Support your child's attempts to try to use new words as this will build their confidence.

*Receptive language* refers to the ability to understand spoken language. Children will understand many more words than they will be able to use and this is often referred to a receptive vocabulary. Help build your child's receptive vocabulary by exposing them to lots of new words.

### **Speech and Language Development in Hearing Impairment**

Hearing is fundamental to speech and language development. Thus, hearing loss can impact significantly on the life of a child. The American Speech-Language and Hearing Association identified four major areas that are adversely affected. They include: speech/language, academics, vocational choices and social functioning (Oweleke, 2020).

Hearing impairment may lead to delay in development of both receptive and expressive language. Children with hearing loss develop vocabulary more slowly than hearing children. Such deficits in language development may cause learning problems which can reduce academic achievement of the children. Socially, hearing loss can create depression and low-self-esteem and frustration which can lead to isolation or withdrawal.

### **Early Childhood Intervention**

Early intervention is the term used to describe the services and supports that are available to babies and young children with developmental delays and disabilities and their families. Oweleke (2020) captures the term as 'the set of actions, efforts or system of services directed at assisting a child with some developmental disorder and his family to adapt more effectively to the challenges of the disorders' (p. 87).

The process is a multi-disciplinary programme that involves a range of problem-solving strategies that help the children to increase their capabilities and reduce the effects of the disability. The programme focuses attention on five key developmental areas of physical, cognitive, communication, social-emotional, and adaptive developments.

Interventions are judged effective if they target the specific skills or needs of a child. For instance, the intervention for a child with Autism Spectrum Disorder (ASD) should target the three major areas of deficit in social interaction, communication and repetitive behaviours. In addition to targeting specific skills, the choice of approaches and services will determine the outcome of the intervention.

## **IV. Methodology**

### **Research design**

In the course of this study, the design used is descriptive survey. It was designed to identify the relationship between intervention and early identification as well as language outcomes of children with hearing loss in Obio/Akpor, and Port Harcourt, Local Government Areas of Rivers State. Nworgu (2006) defines descriptive survey design as those studies that aim at collecting data and describing them in a systematic way, the feature of a given population. The design is considered appropriate because it enabled the researcher to identify the characteristic of the population objectively.

### **Population of the study**

The population of the study consisted of four hundred and twenty-one (421) caregivers and parents from eight (8) Orphanage homes, rehabilitation centres, and Special Needs Schools in Port Harcourt metropolis (Obio/Akpor, and Port Harcourt Local Government Areas) of Rivers State (Source: Special Needs Education Unit, Rivers State Basic Universal Education Board, 2018/2019).

### **Sample and sampling techniques**

Since the researchers could not cover all the Orphanage homes, rehabilitation centres, and Special Needs Schools, the study utilized a sample size of 300 respondents which is comprised of caregivers and parents in urban centers in Obio/Akpor, and Port Harcourt Local Government Areas. The caregivers and parents were selected through the convenience sampling technique.

### **Instrument for data collection**

The research instrument that was used for data collection of data for this study is designed by the researchers and is titled "Early Intervention and Language Development among Children with Hearing impairment Questionnaire (EILDAPHLQ)". The instrument was divided into Sections A and B. Section A requires the respondents' demographic information, while Section B contains 30-items which addressed the subject matter of

the study. Items 1-5 sought information for research question one, items 6-10 sought information for research question two, with responses ranging from Very High Extent (VHE), High Extent (HE), Low Extent (LE) and Very Low Extent (VLE) with mean criterion of 2.5 (4-point likert scale).

### Validation and reliability of instrument

In order to ensure the sanctity of facts, the instrument was given to four experts. Two from the field of Guidance and Counselling and two from the field of language disorder to ensure it is in line with the objectives of the research. The experts were selected based on expertise knowledge and experience in test construction and the subject matters. They examined the quality and relevance of the items including appropriateness, clarity and sufficiency of the instrument for collecting required information (responses) for the study. Their comments and suggestions were used to review the tagged instrument before it was administered to the respondents. In order to ensure the reliability of the instrument, the test-re-test method was adopted. In this method, 20 copies of the questionnaire were administered to 20 respondents who did not partake in the main study. After two weeks, the same instruments were re-administered to the same respondents. The two set of scores were correlated using Pearson Product Moment Correlation to ascertain internal consistency of the instrument and a reliability coefficient of 0.79 was determined.

### Methods of Data Analyses

The researchers visited the Orphanage homes, rehabilitation centres, Special Needs Schools and parents involved to obtain permission from the relevant authorities to administer the instruments to the respondents in the centres. Copies of the questionnaire were distributed and personally administered by the two researchers. Three hundred (300) copies of the questionnaires were distributed to the respondents; however, 280 copies of the questionnaires were properly filled and returned.

## V. Results

### Research Questions

**Research Question 1:** What is the relevance of time of identification on the expressive language development among children with hearing impairment in Rivers State?

**Table 1.1: Mean score and standard deviation of the impact of time of identification on the expressive language development among children with hearing impairment**

S/N	Items	Respondents (n=280)			
		WTS	$\bar{x}$	SD	Decision
.1	Early identification on children with hearing impairment in the first 3 months of development enhance the acquisition of expressive language development	933	3.33	0.59	HE
.2	Early identification on children with hearing impairment in the first 6 months of development improve the acquisition of expressive language development	808	2.89	0.98	HE
.3	Early identification on children with hearing impairment in the first 3 months of development enhance their ability to write effectively later in their development	957	3.42	0.81	HE
.4	Early identification on children with hearing impairment in the first 3 months of development enhance their ability to produce sound effectively later in their development	1050	3.75	0.50	VHE
.5	Early identification on children with hearing impairment in the first 3 months of development enhance their ability to interpret gesture effectively later in their development	1017	3.63	0.60	VHE
<b>Grand Mean/SD</b>			<b>3.40</b>	<b>0.70</b>	

WTS – Weighted Score

(Criterion Mean = 2.5, Mean: 1.0-1.99 = VLE, 2.0-2.49=LE, 2.5-3.49 =HE, 3.5-4.0 = VHE)

Table 11 shows the impact of time of identification on the expressive language development among children with hearing impairment in Rivers State. However, the majority of the respondents indicated “Very High Extent” to items 4&5, with their mean scores greater than or equal to the criterion mean (2.5) and within the mean score range of 3.5-4.0. Also, majority of the respondents indicated “High Extent” to items 1-3, with their mean scores greater than or equal to the criterion mean (2.5) and within the mean score range of 2.5-3.49.

The implication of the Grand Mean of 3.40 indicated that to a high extent, the time of identification has impact on the expressive language development among children with hearing impairment.

**Research Question 2:** What is the significance of time of identification on the receptive language development among children with hearing impairment in Rivers State?

**Table 1.2: Mean score and standard deviation of the impact of time of identification on the receptive language development among children with hearing impairment**

S/N	Items	Respondents (n=280)			
		WTS	$\bar{x}$	SD	Decision
.6	Early identification on children with hearing impairment in the first 3 months of development enhance the acquisition of receptive language development	917	3.27	0.97	HE
.7	Early identification on children with hearing impairment in the first 6 months of development improve the acquisition of receptive language development	607	2.17	1.22	LE
.8	Early identification on children with hearing impairment in the first 3 months of development enhance their ability to understand text, and picture effectively later in their development	898	3.21	0.88	HE
.9	Early identification on children with hearing impairment in the first 3 months of development enhance their ability to understand gesture effectively later in their development	899	3.21	0.89	HE
.10	Early identification on children with hearing impairment in the first 3 months of development enhance their ability to understand sound effectively later in their development	982	3.51	0.62	VHE
<b>Grand Mean/SD</b>			<b>3.07</b>	<b>0.92</b>	

WTS – Weighted Score

(Criterion Mean = 2.5, Mean: 1.0-1.99 = VLE, 2.0-2.49=LE, 2.5-3.49 =HE, 3.5-4.0 = VHE)

Table 4.2 shows the impact of time of identification on the receptive language development among children with hearing impairment in Rivers State. However, the majority of the respondents indicated “Very High Extent” to items 10, with the mean score greater than or equal to the criterion mean (2.5) and within the mean score range of 3.5-4.0. Also, majority of the respondents indicated “High Extent” to items 6, 8, & 9, with their mean scores greater than or equal to the criterion mean (2.5) and within the mean score range of 2.5-3.49, while majority of the respondents also indicated “Low Extent” to item 7, with the mean score less than the criterion mean (2.5) and within the mean score range of 2.0-2.49. The implication of the Grand Mean of 3.07 indicated that to a high extent, the time of identification has impact on the receptive language development among children with hearing impairment.

## VI. Discussion of Findings

The study investigated the importance of early intervention on receptive and expressive language development among children with hearing impairment in Rivers State. However, the result in table 1.1 shows that the time of identification, to high extent, is significant on the expressive language development among children with hearing impairment. Also, the result of table 1.7 shows that there is significant impact of time of identification on the development of expressive language ability among children with hearing impairment in Rivers State. This finding corroborates the assertion of Meizen-Derr, Wiley, and Choo (2011), whose study found that children enrolled prior to age 6 months were more likely to have age-appropriate language skills at baseline than children enrolled at or after 6 months, and maintained age-appropriate skills over time. Children enrolled at or after 6 months had lower baseline skills but made significant language progress, irrespective of hearing loss severity.

Also, the result in table 1.2 shows that the time of identification, to high extent, has impact on the receptive language development among children with hearing impairment. While, the result of table 1.8 show that there is significant impact of time of identification on the development of receptive language ability among children with hearing impairment in Rivers State. This finding is corroborated by Meizen-Derr, Wiley, and Choo (2011) earlier mentioned.

## VII. Recommendations

Considering the findings, discussion and conclusions of this study, the following recommendations are made:

1. Parents and caregiver should endeavour to subject their children to early diagnosis on suspicion of expressive language impairment.
2. Parents and caregiver with history of health issues relating to hearing impairment should endeavour to subject their children to early diagnosis on suspicion of receptive language impairment.
3. Government should fund the establishment of training centre for parents and caregivers on how to cope with intervention opportunities for their children who may develop expressive hearing impairment.
4. Teachers and school administrators should be adequately trained on cope with intervention service for their pupils who show receptive hearing impairment, and as such have difficulty understanding what is taught.

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