

SPECIFIC LANGUAGE IMPAIRMENT: A CASE STUDY OF BIAGA KPANDU

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ABSTRACT

Language is a powerful tool humans are endowed with for proper and effective communication. This tool is peculiar only to humans. This seminar paper discusses specific Language Impairment (SLI), which is a type of Language disorder that affects the expressive and receptive abilities of children around 5 years of age and can continue till adulthood if proper and adequate care and attention is not given. The term SLI is specifically for children whose Language difficulties persist into school age, not for toddlers who are late to start talking. Hence, our case study focuses on Biaga Kpandu, a boy of three years seven months old. This boy has a type of SLI known as developmental verbal dyspraxia (DVD), which makes the onset of speech for him very delayed and extremely limited with impaired production of speech sounds and utterances. The theory used in this study is the Emergentist Coalition Model (ECM). This is a current model of language acquisition in typically developing (normal) children and it has been empirically vindicated in a great number of experimental studies with typically developing children. Data for this work were collected from books, internet material, interviews and observations. The study covers a general view of language disorder, reviews of related works done by scholars, SLI and its subtypes, Psycholinguistics study of Kpandu in relation to SLI, and possible ways to help his situation. Finally a simple conclusion is made.

Keywords: Language impairment, Speech therapy, Speech disorder, Psycholinguistics

INTRODUCTION

Every living creature has a way of relating to its kind and its environment. Man however is specially endowed with the gift of effective communication which is language. Thus, the ability to form and speak words is a special gift of God to man. The desire to communicate is there in all humans right from a baby's first cries and coos to the time of effective communication as an adult. However, for some children, language acquisition is difficult, which makes it frustrating for caregivers and adult when communication is ineffective.

A child's communication is considered delayed when the child is noticeably behind his or her peers in the acquisition of speech and/or language skills. Sometimes a child will have greater receptive (understanding), than expressive (speaking) language skills, but this is not always the case. A language disorder is impairment in the ability to understand and/or use words in context, both verbally and nonverbally. Some characteristics of language disorders include improper use of words and their meanings, inability to express ideas, inappropriate grammatical patterns, reduced vocabulary and inability to follow directions. One or a combination of these characteristics may occur in children who are affected by language learning disabilities or developmental language delay. This seminar paper will discuss Specific Language Impairment (SLI), using as its case study, Biaga Kpandu 3:9.

Literature Review

This section of the paper will discuss the theory used in this work, the various works done on SLI as presented by renowned scholars as well as review related work done as seen in Agbedo (2008).

Theoretical Studies

According to Foudon, Reboul and Manificat (2008:49), a child acquiring the lexicon has to solve three problems:

- Segmenting the stream of speech into words;
- Segmenting the environments into objects and events;
- Relating words and objects or events.

Based on the above conditions for child acquisition of words (language), we will use a current model of language acquisition in Typically Developing (TD) children as proposed by Hollich, Hirsh-Pasek and Golinkoff (2000); the Emergentist Coalition Model.

NB: Typically Developing Children are children with normal growth and development which includes their language acquisition, physical dispositions to self help and skill acquisition.

The Emergentist Coalition Model

The Emergentist Coalition Model (ECM) has the advantage of having been empirically vindicated in a great number of experimental studies with TD children. (cf. Hirsh-Pasek and Golinkoff, 1996; Golinkoff, et al., 2000). This model suggests that the child uses all the available cues to make out the link between the word and the object: from salience to morphosyntactic cues, through social – pragmatic cues (cf. Golinkoff et al, 2000). The ECM thus presupposes three successive phases in lexical acquisition.

- The first phase has 'Association' as the only mechanism involved. For children to acquire a word there must be perceptual salience and coincidence between the word and the object to which it refers.
- In the second phase, children use gaze direction and social context (i.e. the goal and situation of the interaction) which supplant perceptual salience to infer the meaning of words.
- During the third phase, the linguistic data (grammar and morphology) play an additional role in helping the child to infer the meanings of new words.

Thus, according to the ECM, lexical acquisition is not a static mechanism, but a dynamic one: depending on the stage of acquisition the child is in, he/she will take into account different cues.

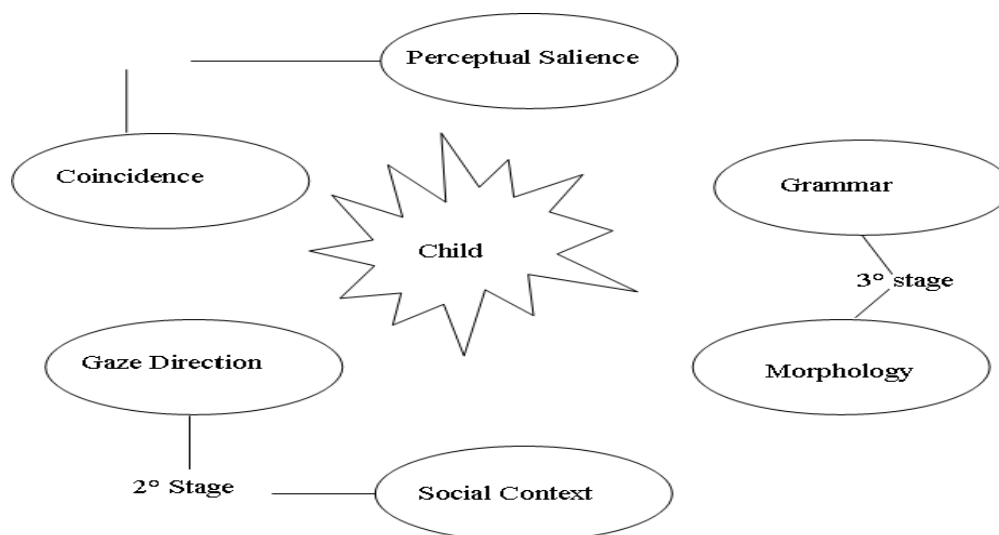


Fig. 1 . Different Stages of Language Acquisition According to the Emergentist Coalition Model

1° stage

As noted previously, the ECM presupposes three successive phases where the child has to solve three different problems.

- During the first phase, between 0 and 9 months, the child has to extract the acoustic packaging. Language assists the child in segmenting the nonlinguistic events to be internalized and approximately interpreted.

- The second phase of language acquisition is the phase of segmentation and linguistic mapping. From 9 -24 months, the child begins to analyze within the acoustic units extracted in phase 1 and to map the resulting product (words and phrases) onto their corresponding representation of object and events.
- Finally, in the last phase, the child proceeds to a complex syntactic analysis. Sentence comprehension can occur more often in the absence of the events being described, and the child can perform a complex syntactic analysis to gain meaning. Table 1 gives us a summary of this.

Phases of Child Language Comprehension

Table 1: A three-phase Model of Language Comprehension (Hirsh-Pasek and Michnick Golinkoff, 1996).

Phases	Dominant process	Form of Representation	Language Comprehension	Language Production
Phase 1 0 – 9 months	Internalization	Acoustic correlates of linguistic structure/images-schemas (not propositional)	Some words	Few, if any, words
Phase 2 9 – 24 months	Internalization and interpretation	Words, some early grammar/Propositions, cuts becoming language dependent	Syntactic, when redundant cues from context, semantics and prosody coincide	Prototypical transitive and intransitive sentences, often incomplete
Phase 3 24- 48 months	Interpretation	Hierarchical representation of linguistic structure/propositions, language dependent in nature	Syntactic, even when redundant cues fail to coincide, can compute interclausal relations	Complete sentences, variety of structures

The dominant process of phase 1 is internalization. Children use acoustic correlates of linguistic structure and image – schemata for comprehension. They produce and understand few words.

Phase 2 is a transition between internalization and interpretation. Children have representations of words and some early grammar. Propositions become language dependent. They understand syntax, semantics and prosody only when cues coincide. They can produce some prototypical transitive and intransitive sentences but these are often incomplete.

Phase 3 is the interpretation. Children have a hierarchical representation of linguistic structure. They know that structure can be embedded in higher structures. They can have representations of events even if these are not present. They know that events are governed by structure – dependent rules. They understand all syntax and can compute interclausal relations. They produce

complete sentences and can vary the structure (for example transforming active to passive). Concerning SLI children, a classical view of SLI postulates that they suffer from a cognitive deficit.

Specific Language Impairment (SLI)

In the 1950s and 1960s, neurolinguistics and speech-language pathology used the term ‘developmental dysphasia’ and ‘childhood aphasia’ for SLI. Specific Language Impairments (SLI) can be regarded as a genetic language disorder which involves language development problems with no other obvious physical, sensory or emotional difficulties. Wikipedia presents that SLI is extremely common in children, and affects about 7% of the childhood population. In a similar view by researcher Professor Lucy Henry of London South Bank University, says that 3 – 6 percent of UK school children are affected by this disability. Foundon et al (2008 – 47) confirm that the SLI touch a relatively important number of children (approximately 7%). Children with SLI have difficulties with most or

all aspects of language including grammar, vocabulary and literacy as well as with short term memory. According to new research funded by the Economic and Social Research Council (ESRC), they also have problems with higher order thinking skills.

Specific Language Impairment (SLI)

According to Wikipedia, the free encyclopedia, SLI is diagnosed when a child's language does not develop normally and the difficulties cannot be accounted for by generally slow development (mental retardation), physical abnormalities of the speech apparatus, autistic disorder, acquired brain damage or hearing loss. Usually the first indication of SLI is that the child is later than usual in starting to speak and subsequently is delayed in putting words together to form sentences. Spoken language may be immature throughout childhood, with utterances restricted to short, simple sentences. This corresponds to expressive language impairment. In many children with SLI, understanding of language or receptive language is also impaired, though this may not be obvious unless the child is given a formal assessment (cf Bishop (1997)). The term SLI, is generally used for children whose language difficulties persist into school age and so it would not be applied to toddlers who are late to start talking, most of whom catch up with their peer group after a late start. (cf Thal and Katich (1997)).

How SLI Is Assessed/Diagnosed.

Wikipedia presents that SLI is defined purely in behavioural terms:

There is no biological test for SLI. There are three points that need to be met for a diagnosis of SLI:

- The child has language difficulties that interfere with daily life or academic progress;
- Other causes are excluded: the problems cannot be explained in terms of hearing loss general developmental delay, *autism*, or physical difficulty in speaking;
- Performance on a standardized language test is significantly below age level.

There is considerable variation in how a standardized language test criterion is implemented. Tomblin, Records and Zhang (1996), proposed the EpiSLI criterion, based on five composite scores representing performance in three domains of language (vocabulary, grammar, and narration) and two modalities (comprehension and production). Children scoring the lowest 10% on two or more composite scores are identified as having language disorder.

Foudon, Reboul and Manificat (2008: 47) opine that SLI is identified by the following criteria: normal hearing, absence of recent oto – rhino troubles, no cerebral dysfunction identified, normal social behaviour, normal oral motricity abilities, and important results in persistent deficits.

“The outcomes in later life for many children with SLI are not particularly rosy”, Professor Henry points out. “Between 50 and 90 percent of those affected by SLI never reach typical levels of language use”.

Subtypes of SLI

Most experts agree with the fact that SLI in children vary, there is however, little agreement on how best to subtype them (cf Bishop (2004)). Rapin and Allen (1983) propose a classification of developmental language disorders based on the linguistic features of language impairment and was subsequently updated by Rapin, a child neurologist. Rapin refers to the subtypes as ‘syndromes’ which many of those coming from the perspective of education or speech – language therapy reject this type of medical label, and argue that there is not a clear dividing line between SLI and normal variation (cf Dale and Cole (1991)). Also although most experts would agree that children with characteristics of the Rapin subtypes can be identified, there are many cases who are less easy to categorize, and there is also evidence that categorization can change over time (cf Conti – Ramsden and Botting (1999)). Rapin's subgroups fall into three broad categories.

Receptive/Expressive Developmental Language Disorder

This group is further divided into two parts which are receptive/expressive phonologic/syntactic deficit syndrome and verbal auditory agnosia.

i.a.Receptive/Expressive phonologic/Syntactic deficit syndrome is the most common form of SLI, in which the child's most obvious problems are a tendency to speak in short, simplified sentences, with omission of some, grammatical features, such as past tense marker ‘-ed’ (cf. Learned (1998)).

i.b.verbal Auditory Agnosia is a very rare form of language impairment, in which the child appears unable to make sense of speech sounds. It typically occurs as a symptom of Landau – Kleffner syndrome, in which case diagnosis of SLI would not be appropriate, as there is a known neurological origin of the language difficulties.

Expressive Developmental Language Disorder Syndromes

The two groups here are;

- Developmental verbal dyspraxia.
- Phonologic programming deficit syndrome.

Developmental Verbal Dyspraxia (DVD).

In the child with DVD, comprehension is adequate; the onset of speech is very delayed and extremely limited with impaired production of speech sounds and short utterances. The poor speech production cannot be explained in terms of structural or neurological damage of the articulators. There is much disagreement about diagnostic criteria, but the label is mostly used for children whose intelligibility declines markedly when they are producing individual sounds or syllables. Another key feature is inconsistency of speech sound production from one occasion to another. Although the term ‘dyspraxia’ suggests a pure output disorder, many, perhaps all of these children have difficulty in doing tasks that involve mentally manipulating speech sounds, such as phonological awareness tasks. Children with verbal dyspraxia also typically have major literacy problems, and receptive language levels may be poor on tests of vocabulary and grammar (cf Stackhouse and Wells (1997)).

Phonologic Programming Deficit Syndrome.

The child speaks in long but poorly intelligible utterances, producing what sounds like jargon. Outside Rapin's group, little has been written about this subtype, which is not generally recognized in diagnostic frameworks.

Higher Order Processing Disorders

Under this subtype there is:

- Lexical deficit disorder.
- Semantic – Pragmatic deficit disorder.

Lexical Deficit Disorder

The child has word finding problems and difficulty putting ideas into words. There is poor comprehension for connected speech. Again, there is little research in this subtype, which is not widely recognized.

Semantic – Pragmatic Deficit Disorder

The child speaks in fluent and well – formed utterances with adequate articulation; content of language is unusual; comprehension may be over – literal, language use is odd; the child may chatter incessantly, be poor at turn – taking in conversation and maintaining a topic. There has been debate centered over the question of whether this is a subtype of SLI, part of the autistic spectrum, or a separate condition (cf Bishop (2000)).

Among the three subtypes, our area of concentration will be on subtype;

(ii.) and (ii.a) precisely: Developmental Verbal Dyspraxia (DVD). Biaga Kpandu, our case study, falls into this group.

Empirical Studies

In our empirical studies, we will look into works done by scholars which are related to our own area of study.

Relationship with other Neurodevelopmental Disorders

Although textbooks draw clear boundaries between different neurodevelopmental disorders, there is much debate about overlaps between them (cf Bishop and Rutter (2008)). Many children with SLI meet diagnostic criteria for developmental dyslexia, and others have features of autism (cf Bishop and Snowing (2004); Bishop (2008)). Also in Agbedo (2008)

Journal article, "Communication Disorders in Children: A Case Study of Mimo Usama and Sele Yinge", we notice that the case of Sele, who manifests symptoms of 'neurological disorders and mental retardation' is closely related to that of Biaga Kpandu who manifests symptoms of Specific Language Impairment, as we will see in later part of this work. Some communication disorders seen in Sele are similarly noticed in Kpandu. These include later than usual time (period) of babbling, dysfluency, orofacial myofunctional disorders, apraxia of speech (cf Agbedo (2008: 10 - 13)). Professor Henry observes that SLI and dyslexia are similar in that both involve a 'specific' disability, which is generally believed to affect often, particular aspect of a child's thinking and ability to deal with information. In the case of dyslexia, the dimension that is affected concerns reading. In the case of SLI, the dimension affected is language with grammar, vocabulary, the understanding of meaning, and the ability to use sounds appropriately all potentially being affected.

Some Neurological Disposition of Sele

Agbedo (2008: 11 - 13) presents communication disorders noticed in Sele.

A good number of these disorders are discussed in Agbedo's work under the following subtitles: language delay, stuttering (dysfluency), orofacial myo - functional disorders (OMD), unilateral vocal cord paralysis (UVCP), apraxia of speech and velopharyngeal dysfunction (VD).

Language Delay (LD)

Under language delay (LD), the symptoms Sele manifests include the following: incomprehensible speech after three years of age serious difficulties with syntax and his language history presents inability to effectively make expected utterances at expected stages of language acquisition and growth.

Dysfluency

Dysfluency defined as breakdown in the natural flow of speech during spontaneous communicative event (cf Agbedo 2008 : 11), is manifested by Sele when he repeats one word syllable several times; fears or refuses to talk because of stuttering, struggles to utter even a word; abnormal breaking during speech.

Orofacial Myofunctional Disorders (OMD).

Here Sele manifests chronic open mouth, dental abnormalities, tongue thrust. These are symptoms of OMD which is characterized by abnormal oral habits, speech distortion and/or abnormal lip, jaw or tongue position during rest, swallowing, or speech (cf Agbedo 2008: 11).

Vocal Cords Paralysis (VCP)

Vocal Cords Paralysis (VCP) refers to the non - movement of the vocal cords during speech production which could involve both cords/bilateral (BVCP) or only one cord/unilateral (UVCP). Sele falls under UVCP and manifests the following symptoms: high pitched squawking sound; especially in his moment of emotional imbalance; hoarse voice and sporadic shortness of breath (cf Agbedo 2008: 12).

Apraxia of Speech or Verbal Apraxia

'Verbal apraxia', as presented by Agbedo (2008 : 12), is an oral - motor speech disorder that affects a child's ability to correctly

pronounce sounds, syllables and words. It also affects the child's ability to move his or her face, tongue, lips and jaw to the correct position to make required utterances. Symptoms Sele manifests include: limited ability to produce speech sounds; difficulty imitating mouth movements; groping for correct placement of the tongue, lips and jaw during speech; atypical facial expression; abnormal voice quality; history of feeding difficulties; limited expressive language skills (cf Agbedo 2008 : 12).

General Psycholinguistic Profile of Biaga Kpandu

Biaga Kpandu is a boy of four years and seven months (3:9). He is the second of a family of two boys. I live in the same compound with Kpandu's parents and this has enabled my closer and better observation of Kpandu.

The physical appearance of Kpandu does not inform you of any impairment, except that he walks one sided which, once in a while makes him loose balance and fall. He has more of the canine set of teeth that are coloured (like muddy water). When engaged in an exercise (talking or physical), his mouth is often open and this lets out saliva from his mouth. At his age, he wears napkin (pampers).

The parents of Kpandu are literate people (university graduates) who run a food and provision store. Despite the ever - demanding nature of their business, adequate attention is given to Kpandu by the parents. Needs such as feeding, bathing and monitoring his movements are attended to by the parents. His elder brother also serves as his caretaker, especially in school and during play time. Kpandu is such a lively, sociable and adventurous boy. Most times he is involved in games such as "hide and seek" and he is often noticed laughing boisterously. Sometimes, he makes a tour of a reasonable number of neighbours living in the compound and he is of course popular.

His involvement in the academic world must have influenced him a lot judging from his ability to recite some nursery rhymes and songs heard in this world (nursery school). Although about seventy percent (70%) of his speech are incomprehensible, it is based on the information got from the interaction had with him that we do our analysis.

SLI Analysis of Kpandu

Kpandu is a lively, sociable and adventurous little boy whose speech impairment does not actually affect his social life and interaction with others such as their customers, neighbours and his peer group. He appears a normal and healthy child, though he limps a little and has about seventy percent (70%) speech impairment. The following are extractions from his utterances during an interaction with him.

The interaction started with asking him to say the numbers beginning from one. We noticed that he can count '1, 2, 3...' in his own way. For '2' he would say /ʔu/. He can give correct answers to questions like:

i. What is your name? To this he mentioned his name correctly. His elder brother's name he shortens.

ii What is your father's name? /aʔl/ meaning daddy.

iii What is your mother's name? /ʔmI/ meaning mummy.

iv He can recite the 'States and Capitals' in his own way. Thus we have the following:

'aʔa/ Abia; /ʔmaha/ Umuahia;

'uʔəʊ/ Uyo; /eʔuʔu/ Enugu;

'jaʔŋ/ Jalingo.

v He can recite and demonstrate some 'nursery rhymes' such as: motor car, motor car', especially at pipipi popopo....

'e hl ʔfʔ d i i i' meaning h - i - p for the hip....

'e ʔn ʔas əu/ well done class go.

'ʔɪɔɔɔ' b is for ball

'ɔ m p a' pampers

He can make understandable utterance and demonstration in the children's popular song titled 'ime otua, ime otua eee'

Observations

It is a thing of surprise to know that Kpandu can make meaningful utterances. He can communicate to a reasonable extent. He understands and responds to questions meaningfully. He uses more of the glottalic stop /ʔ/ including the following speech sounds /a, e, i, l, b, p, g, d, r, v, u, ŋ, f, m, h, j, k/. He is often restless, distractive if not guided and finds making utterance very difficult.

Possible Way Out For Kpandu's Case

The case of Kpandu, as earlier mentioned, is a type of SLI called developmental verbal dyspraxia (DVD), where comprehension is adequate but onset of speech is extremely delayed and limited with impaired production of speech sounds and short utterances (cf Wikipedia).

Longitudinal studies indicate that problems are largely resolved by 5 years in around 40% of 4-year-olds with SLI (cf Bishop and Edmundson (1987)). Intervention is usually carried out by speech and language therapists, who use a wide range of techniques to stimulate language learning. These techniques include;

- Drilling children in grammatical exercise using imitation and elicitation methods.
- 'Milieu' methods where the therapist builds on the child's utterances, rather than dictating what will be talked about. These two methods build the grammar and phonology of the child.
- The modern method in use develops children's social use of language, in which there is a working group made up of typically-developing and language-impaired peers.
- Another modern method is the direct involvement of parents in helping their children with language impairment – especially the preschool children.
- A radically different approach has been developed by Tallal and colleagues. It is a computer based intervention called 'Fastforward', which involves prolonged and intensive training on specific components of language and auditory processing (cf Tallal, (2000)).
- Television viewing is associated with delayed language development. Research on early brain development shows that babies and toddlers have a critical need for direct interactions with parents and other significant caregivers for healthy brain growth and the development of appropriate social, emotional, and cognitive skills. Parents and caregivers are enjoined to interact more frequently with their children and avoid them from viewing television at all especially children under the age of 2, and after age 2, they can watch no more than one to two hours of quality programming a day (cf Chonchaiya, Weerasak and Chandhita (2008)).

CONCLUSION

We have seen so far that the ability to use language is an innate character in every human right from childhood. Thus, its delay or worse still, denial is a cause for serious worry for whoever is directly affected as well as the people who are indirectly affected such as parents, siblings, caregivers, neighbours, teachers and their medical directors.

Specific Language Impairment (SLI), a type of language disorder, affects about 7% of children around 5-year-olds and this calls for attention. Existing studies of young adults with SLI in their 30s show that on the whole they have very few educational qualifications, often have difficulty finding stable employment and, lacking the

language skills to make good friendships, can become quite isolated. Hence, it is vital that we spread awareness of this disorder, particularly among school teachers, so that we can improve outcomes for the significant number of children affected.

Findings indicate that condonable levels of support will be required for children and young people with SLI when they are embarking on any type of learning task. The key issue for teachers and parents (families) is that children with SLI have not only language problem but difficulties in terms of thinking, remembering and planning which touch on the whole range of classroom activities.

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