

Articulation and Fluency Disorders in a Four Year Old: An Unfolding Scenario

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Abstract

Speech disorder is a type of communication disorder that affects normal speech. This may occur as a result of damage to some parts of the brain or vocal organs. This work is an original study of a developing case of speech disorder in a four year old child who lives in Benin City, Edo State, Nigeria. The child (henceforth Osayame) was electrocuted in an enclosure containing an electric transformer during a play session with his friends. The effect of the electrocution and the trauma Osayame went through after the terrible incident however revealed a case of fluency and articulatory disorders. These issues became evident in his speech some months after the accident; a condition that later affected or reduced his academic performance. This paper is a simple report on the situation. In doing this, the situation of the child before the incident is presented; the incident itself and the child's condition after the incident are also presented. Data for this paper are collected via participant observation and interview method in which the parents, teachers and the doctor of the child are interviewed. Our research instruments are a digital voice recorder and writing materials. The conclusion highlights the hazards posed by neglected facilities and stresses the importance of the linguist in handling issues of stuttering and articulation disorders in children not born with them, such as Osayame.

Keywords: Nigeria, Accident, Speech, Fluency, Articulation and Disorder.

Introduction

Clark and Clark (1997:3) opine that language stands at the center of human affairs from the most prosaic to the most profound. Language is useful only when in use, as it permeates our lives in all sorts of different ways. Raja (2010) asserts that life without language for a human is lifeless. According to Emenanjo (2012:6), human language is one of the two most important artifacts designed and made by man in his bid to conquer the universe and to make the best out of life and creation. No wonder Alagbe (2012) describes it as a specific human attribute which occupies the center of human affairs from time immemorial. Linguistics as a discipline, burdened with the task of language and its nature, has advanced in recent times in the management of

language and speech disorders in developing children (and even adults). It is on this premise that this work is based.

This paper reports a case of stuttering and articulation disorders in a four year old boy called 'Osayame', who was electrocuted by an electric transformer. This goes to unfold the simple truth that the case before us is not genetic or caused by any medical ailment, but rather, originated from the incident in which the child was electrocuted. The resultant effect of that incident, however, displays mainly the issues of fluency and articulation disorders which originally were not present in the child's speech before the incident.

For future occurrences to be arrested, it is of utmost importance that it is examined first, by knowing the situation before and after the incident. The diagnosis will therefore decide the type of medication to be administered to the child.

Study Design

The study is on a four-year old residing in Benin, Edo State, Nigeria. His name is Osayame whose birth and upbringing are very well known to the writer. This study adopts the descriptive survey and participant observation method. The interview method was employed in gathering data and information needed for this study. Here, the parents, class teachers and his doctor were interviewed. Unfortunately, all efforts to get the doctor's report on the issue proved abortive. However, we were able to gather some data for this study through the various interactions with him. Our research instruments were a digital voice recorder, a notebook and a bic which we employed in recording important points and illustrations.

Speech and Articulatory Disorders

Speech and communication disorders are subsets of learning disorders. Speech is one of the major ways through which we communicate or pass information from one person to the other (Bowen, 1998). Speech disorders are those problematic conditions which deter an individual from forming the speech sounds needed for the purpose of communication. There are various types of speech disorders, but the three basic ones are: articulation disorders, voice disorders and fluency disorders. These types of disorders are regarded as phonological disorders. Ferguson et al (1992) defines phonological disorder as that which may reflect an inability to articulate speech sounds, with the communication difficulty involving a motoric component. Such difficulties are described as being phonetic in nature as it concerns how sounds are produced. However, features peculiar to phonological disorders, as noted by Shriberg et al (1986) includes the inability to articulate words with many syllables (ie syllable drop), repetition of a part or the whole of a word and also the inability to produce certain sounds at the end of words (sound drop).

This paper examines the cases of stuttering and articulation disorders which involve the difficulties in articulating specific types of sounds. Speech disorders have various causes: damaged vocal cords, brain damage (caused by a stroke or head injury), and muscle weakness as well as accident. In the case of our present subject, the child developed the articulatory disorder as a result of an accident in which the child was electrocuted. This kind of disorder affects the phonetic level of speech of the individual so affected.

There are four categories by which the errors made by children with speech disorders can be grouped:

- i. **Substitutions:** This involves errors in which a sound is replaced with another (reg instead of leg).
- ii. **Omission:** This involves the removal of a sound from a word (foo instead of food).
- iii. **Distortions:** this involves the production of a sound in an unfamiliar way.
- iv. **Additions:** this has to do with the errors in which a sound is inserted into a word (bureak instead of break).

The Child and the Situation Before the Incident

Osayame is a four year old boy. His parents are from Edo State, Nigeria; and are living together in Benin City. They speak English and Edo fluently. He is the fourth child of his parents. He was physically and morally stable and has never at any point in his life been diagnosed of any serious medical ailment. There is no history of stuttering in his family. As a normal healthy child, in the process of acquiring language, he produced meaningful utterances (or words) before he was two years old. At that age, he modeled his behavior after his siblings. He is proficient in English only.

At the age of three, Osayame could pronounce the sounds/letters of the alphabet of the English Language fluently. He could also write the letters A- Z and numbers 1 -10 correctly without being aided. He also pronounced words correctly. His class teacher claimed that he was one of the intelligent students in her class and that he possessed a good retentive memory as he hardly forgot what he was taught, although he was always fighting in the class.

At home, he was admired by everyone for his fluency and smartness. As a very inquisitive child who struggled to know about every issue, he always demanded to know the meaning of every new word he heard and also attempted using it. He was good with his studies and use of English. All this was in the past.

The Incident

The incident which led to Osayame's present condition occurred on the 17th of December 2010 at about 5:30pm. Osayame and his friends were playing round the estate in a game of 'hide and seek'. According to our informant, at the time of the incident, there were no adults around the vicinity.

Osayame ran faster than the other children so that he could hide away from them. It was at this point that he saw the enclosure containing the electrical transformer open. Unaware of what was inside the enclosure, he ran in in order to hide away from his friends. When his friends passed by that point a little without seeing or hearing his voice, they began calling his name. It was at this point he got up from his squatting position to show himself to the others. As he did this, he got attracted to the fanciful fuses on the transformer.

Out of curiosity, Osayame put his right arm on one of the fuses, touching a component that made the transformer spark, thereby electrocuting him and letting out fire which hurt his right hand from his palm up to his elbow. Fortunately for the child, on electrocution, the current threw him away from the transformer and in the process, he hit the right side of his head against the wall and fell. In a half-conscious state, he got up and staggered back home. Just a little away from his apartment, he slumped. It was the cry and screams from the other children that alerted everyone in the estate to the scene of the incidence. However, Osayame survived the electrocution as he was immediately rushed to the hospital for proper medical attention.

The Situation After the Incident

Immediately after the incident, Osayame was taken to the hospital where several tests were carried out on him and all the results were reported to have been good. According to the child's doctor, Osayame is a strong and lucky child who survived the electrocution under two conditions:

- i. As at the time of the incident, the child was putting on a pair of rubber slippers which made it impossible for the current to form a complete circuit.
- ii. The current was not retained inside his body as there were outlets (such as the big burnt spots on his right arm, the last toe of his left foot that was badly burnt and the right side on the top of his head) from which the current exited.

During the first three week of the incident, the child was diagnosed to be stable in spite of the injuries which he sustained from the accident. He could speak fluently, and his speech was coordinated as it was before. From the tests conducted on him, the doctor claimed that there was no damage done to his brain and heart which revealed his stable condition.

By the sixth week after the incident, some strange changes were observed in his speech:

- i. Distortion in the fluency of his speech
- ii. Certain sounds are now pronounced differently
- iii. The child is no longer as active as he used to be.
- iv. The child no longer writes the numbers 1-10 or letters A-G correctly.

Osayame's class teacher began to notice strange happenings with the child. In her words:
'Osayame lacks concentration and I advise you take time to find out what is wrong with him.'

On hearing this, the child was taken back to the hospital to see his doctor. His doctor stated that these issues must have arisen as a result of the trauma that the child went through. He also added that he might display some other symptoms but advised against administering drugs to him. He advised that the child should be placed under strict observation and bring him back in the next six weeks. He also advised that we should attempt starting the learning process all over again to help correct these issues.

Discussion

The concern of the linguist in a situation like this is the effect of the accident on the speech of the subject. Did the accident affect the subject's speech, language or both? Can the linguist answer them by reference only to the speech corpus? There is a distinction between speech disorder and language disorder.

In Osayame's case, there is no difficulty understanding whatever is said to him. He is also very capable of sharing his thoughts, ideas and feelings to others around him. It is indeed amazing as the child acquires complex words and is able to employ them correctly in sentences, but he is unable to pronounce some of these words correctly and fluently as he used to.

In this paper, we present the speech pattern and features of Osayame's speech. We however, noticed some pronunciation errors, cases of sound, syllable and word repetitions as well as cases of the insertion of vowels.

Sound Change

Below is a set of data showing words and how they were pronounced before and after the incident:

S/N	Pronunciation Before the Incident	Pronunciation After the Incident	Target Orthographic Form
1	lɜg	reg	leg
2	lɔk	ruk	look
3	liv	riv	leave
4	leik	reik	lake
5	laik	raik	like
6	laf	raf	laugh
7	laiz	raiz	lice
8	flai	frai	fly
9	fleu	freu	flow
10	flaet	fraet	flat
11	frend	fɪənd	friend
12	frai	fɪə	fry
13	flæʃ	fras	flash
14	rulə	rura	ruler
15	milk	mi:k	milk
16	piləu	pireu	pillow
17	galə	gara	gala
18	bləu	brəu	blow
19	klæz	kraz	class
20	kæʃ	kas	catch
21	keibl	keibu	cable
22	teibl	teibu	table
23	flæsk	frask	flask
24	fɔd	fu	food
25	gɔd	gu	good
26	eibl	əbu	able

Based on the data above, we observed that the sounds affected are:

- i. [l] is pronounced as [r] at word initial and medial positions.
- ii. [l] is pronounced as [u] at word final position.
- iii. [r] is pronounced as [w] only at word initial position.
- iv. [ʃ] is pronounced as [s] at word final position.
- v. [s] is pronounced as [f] at word medial position.
- vi. [r] is pronounced as [i] at word medial position.

- vii. [d] is omitted at word final position.

Repetition

In addition to the articulation difficulty observed in Osayame's speech, we also noticed that he cannot speak fluently as he stutters whenever he is communicating with anyone. Stuttering as a speech disorder involves the repetition of sounds, syllables or words and this disrupts the normal flow of speech. These disruptions are usually accompanied by struggling behaviors such as rapid eye blinks or tremors of the lips. In the case of Osayame, his speech was usually accompanied with tremors of the lips only. A few selected lexical items to show the different classes of repetition are given below:

1. **First Syllable Repetition:** in this class of repetition, it is observed that the first syllable having the pattern CV is repeated. Consider the following examples:
 - i. /lei-leitə/ 'later'
 - ii. /wi-wining/ 'winning'
 - iii. /tə-tə-tədei/ 'today'
 - iv. /bei-bei beibi/ 'baby'
 - v. /mΛ-mΛ-mΛmi/ 'mummy'

2. **Incomplete Syllable Repetition:** for this type of repetition, we observe that as the child struggles to produce the monosyllabic word, the first part produced usually sets in as an incomplete version of the second part produced
 - i. /ki-kip/ 'keep'
 - ii. /ti-ti-tink/ 'think'
 - iii. /gi-gi-giv/ 'give'
 - iv. /Mu-muv/ 'move'
 - v. /gre-greit/ 'great'
 - vi. /jɜ-jɜz/ 'yes'

3. **Complete Word Repetition:** With this type of repetition, the whole word having the syllable patterns CV or CVC is repeated twice or thrice as shown below:
 - i. /ju-ju-ju/ 'you'
 - ii. /ti-ti/ 'tea'
 - iii. /mi-mik/ 'milk'
 - iv. /mi-mi/ 'me'

Vowel Insertion

Apart from the case of repetition of word or syllable in Osayame's speech, we also noticed the case of vowel insertion. This usually occurs when he tries producing words with clusters of

consonants having the syllable patterns CCVC. CCCV and CCCVC. Consider the Examples below:

/gi-giræb/ ‘grab’

/bi-bi-bireik/ ‘break

/si-si-sipælj/ ‘splash’.

/si-sikræʃ/ ‘scratch’.

/si-sitrei/ ‘stray’

/bu-bu-burum/ ‘broom’

Intervention Strategies

Linguistics as the science which studies language and its structure holds a grip on every human being’s life. It is in this regard that Crystal (1981) asserts that linguists have a role to play in diagnosing and remediating issues of language and speech disorders through language therapy. Language therapy involves language techniques employed in handling issues of language disorder. It is no wonder that Uwajeh (2008) asserts that it is important that the therapist of communication disorders should be capable of differentiating between a communication disorder where a language disorder is the cause and a communication disorder where the communication process is faulty. In the case of the child Osayame, our observation is that it is an issue that deals with the communication process and not the language used for that communication. He already has a grip of the language and the process seems to be disorganized therefore, diagnosed of having speech disorder.

Our suggestion to help improve on the situation of the child is that intervention strategies should begin early as it is more efficient at this stage of the problem, the condition of the child is remediable and in managing this situation in the child, we suggest that the traditional articulation therapy approach should be employed.

Bowen (1998) asserts that traditional articulation therapy involves ‘behavioral techniques focused on teaching children new sounds in place of error sounds or emitted sounds, one at a time and then gradually introducing (i.e. new sounds) into larger and longer utterances and eventually into normal conversational speech’. In adopting this model, the teaching of a child should involve a gradual process since the child is reported by his teacher as losing concentration if he is kept for a long time during his study period.

The approach suggested above can also be employed in resolving Osayame’s fluency deficiency. After the linguist has repeated the sounds to him, identified the errors and after using the sounds in shorter utterances, the child can be made to use these sounds in longer utterances. In doing this the child should be trained into speaking fluently by reducing his speaking rate. He

should be made to gradually tell stories or can be asked questions which require long utterances as answers. These should be done frequently in remediating the situation.

Conclusion

This paper reported a current situation of speech disorder in a four year old child. The condition was precipitated by an accident (electrocution) and not by any medical ailment. Thus, among other things, speech disorder can be generated by partial electrocution.

As an expert in language and structure, the linguist has a major role to play in the remediation of certain speech disorders. Following Uwajeh (2008) for a satisfactory therapy, the therapist must have a correct knowledge of what language is.

The treatment of speech disorders however should not only address fluency but must also focus on language and its various components, such as the sociolinguistic background of the subject, to ensure that there are no neglected areas that may later have adverse effect on the future of the child. By so doing, language techniques become adequate and reliable in improving issues concerning speech disorders in children.

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