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Dyslexia: Causes, Management and Implications for the Nigerian Primary School Child

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Abstract
Dyslexia is one of the most common language learning disability. Children with dyslexia have difficulty in learning to read despite traditional instructional method. It is caused by impairment in the brain's ability to translate images received from the eyes or ears into understandable language. There are many children in our school system who are not able to read and require help through retention to improve their reading skills. This paper discusses dyslexia, its characteristics, types and management. Finally the paper proffers some recommendations.

Introduction

One of the primary functions of schooling is to ensure that the child acquires literacy and numeracy skills. The school also teaches other needed skills by the society. Most children find schooling exciting; while some develop fear, anxiety and may not cope adequately. They have difficulties with learning the letters of the alphabets, associating sounds with letter that represent them, identifying/generating words or counting syllabus in words (phonological awareness) segmenting words into individual sounds or bending sounds to

make words (phonemic awareness) etc. Unfortunately, large numbers of these school children suffer from learning disabilities. However a careful observation and diagnosis of these children show that they suffer from dyslexia. Dyslexia is a reading, writing and spelling disorder that can involve difficulties in visual or auditory perception. These children need thorough redemption screening and intervention to improve their reading.

The term dyslexia has been defined in different ways but no conceptual consensus has been reached. According to Martin, Carlson and Buskist (2007), it refers to a disorder involving impaired reading, writing and spelling. The World Federation of Neurologists (1968) defined dyslexia as a disorder in children who despite conventional classroom experience fail to attain the language skill of reading, writing and spelling commensurate with their intellectual abilities.

In relating dyslexia with learning disabilities, the National Institute of Neurological Disorder and Stroke (2010) defined dyslexia as a disorder that impairs a person's ability to read and which can visibly manifest as a difficulty with phonological awareness, phonological decoding, orthographic coding, and auditory short term memory. Thus dyslexia is a learning disability that can hinder a pupil's ability to read, write, spell and sometimes speak.

There are many theories of dyslexia. This ranges from cerebella theory, evolutionary theory, Magnocellular theory, Naming speed deficit and double deficit theories, Phonological deficit theory, Visual theory, Rapid auditory processing theory etc. All these theories try to explain the underlying causes of dyslexia from variety of research background and findings. (Ramus, Rosen and Dakin 2003, Brish 2005)

This paper has relevance from an educational perspective that views dyslexia as serious impediment to optimal education. Furthermore, if left undetected and properly managed could pose very serious danger to the child's academic pursuit.

Characteristics of dyslexia

Though Dyslexia varies from person to person, common characteristics among people with dyslexia are difficulty with spelling; phonological processing (manipulation of sound) and rapid visual –verbal responding

despite having normal intelligence. Other notable characteristics of dyslexia include difficulty copying from the board or a book can also suggest problems. There may also be disorganization of written work. A child may not be able to remember content, even if it involves a favorite storybook. Problems with spatial relationships can extend beyond the classroom and be observed on the playground. The child may appear to be uncoordinated and have difficulty with organized sports and games. (Grigorenko 2001)

Dyslexia can go undictated in the early grades of schooling. The child may become frustrated by the difficulty in learning to read. Other problems can arise that disguise dyslexia. The child may show signs of depression and low self esteem. Behaviour problems at home as well as at school are frequently seen. The child may become unmotivated and develop a dislike for school. The child's success in school may be jeopardized if the problem remains untreated. The emotional symptoms and signs are just as important as the academic and required desired attention. (Grigorenko 2001, Martin et al 2007)

It is generally believed that dyslexia can affect between 5 to 10 percent of a given pupil population, although there has been no studies to indicate an accurate percentage (Mc Candliss and Nobel 2003, Brish 2005, Czepita and Lodygowska 2006). In Nigeria statistics are not readily available. Very little is known on dyslexia.

Types of dyslexia

According to the National Institute for Neurological Disorder and Stroke (2010) there are several types of dyslexia that can affect the child's ability to spell as well as read. These include: Trauma dyslexia, Primary dyslexia and secondary or developmental dyslexia.

i. Trauma dyslexia. This type of dyslexia occurs after some form of brain trauma or injury to the area of the brain that controls reading and writing.
ii. Primary dyslexia: This type of dyslexia is a dysfunction of, rather than damage to, the left side of the brain (cerebral cortex) and does not change with age. Individual with this type are rarely able to read above primary four. Primary dyslexia is passed in family lines through their genes. It is found more often in boys than in girls. (Czepita et al 2006)

iii. Secondary dyslexia: This type of dyslexia is said to be caused by hormonal development during the early stages of fetal development. Developmental dyslexia diminishes as the child matures. It is also more common in boys than girls. From the foregoing, dyslexia may affect several different functions.

iv. Visual dyslexia is characterized by number and letter reversal and the ability to write symbols in the correct sequence.

v. Auditory dyslexia involves difficulty with sounds of letters. The sounds are perceived as jumbled or not heard correctly.

Causes of dyslexia

Although there are several causes of dyslexia, it is generally agreed by researchers (e.g. McCandliss et al and Nobel 2003, Czepita et al 2006, Martins et al 2010) that dyslexia is caused primarily by impairment in the brains ability to translate image received from the eyes or ears into understandable language. It does not result from vision or hearing problems. Dyslexia is not due to mental retardation, brain damage or lack of intelligence.

Other causes of dyslexia according to researchers is as a result of slowness or failure of language to lateralize to the left hemisphere. The failure may be due to physiological abnormality, or to the child's assumption that he or she will fail or lack motivation. There is also the possibility of neural immaturity; the brain is lateralized, but as a result of slowness in development in the language area of the left hemisphere, the child has difficulty in learning to read. (Kinsborne and Hiscook in Osa-Afina 2003)

Some children with dyslexia show no handicap of neurological, intellectual causes. However, researchers (Smith, Kimberling, Pennington and Lub 1993) are of the view that dyslexia has a genetic basis. Studies on twins indicate that there is a heritable component of dyslexia. Also brain abnormalities, possibly heritable may be connected to dyslexia. Autopsies of the brains of right handed individuals with childhood dyslexia have revealed microscopic abnormalities in the area of number and organization of neurons especially on the left side of the brain in what is called the posterior language area of the cortex (Grigorenko 2001, Galaburda and Cestnick 2003).

Apart from the foregoing dyslexia can be caused as a result of factors within the home and school. A number of researchers (e.g. Ikediashi and Iroegbu 1998, Ganzach 2000, Kalogo 2002 and Ikediashi 2010) agree that the family (home) environment and the school to a large extent affect academic performance of children in school.

Studies by (Kalogo 2002) have shown that the family oriented variables relate significantly to the behaviour and academic performance of the child. For example, children from middle class families who had better home environments performs better in school work, stay longer in school when compared with children from poor background. Their signs and problem of dyslexia may be better diagnosed and possibly better handled.

Similarly, the school and indeed certain aspect of its culture may pre-dispose a child to dyslexia. There are many tensions in school life. The school compels a child to adjust to strange children, unfamiliar teachers etc. The school also compels the child to perform tasks that it may find difficult. Also schools where the teacher is ill trained, lack the necessary basic and instructional techniques to teach may aggravate a child's personal struggle with his fear of school. The result is that some of these children may find it very difficult to adjust to the school schedule.

Management of dyslexia

When a child cannot read or write very well in class. There is need for the teacher to know why. An experienced teacher by way of careful observation can easily detect dyslexia. There is no significant or generally acceptable cure for dyslexia management. In addition the dyslexia pupils can be assisted to learn to read and write with the appropriate instructional strategies and educational support. An important aspect of dyslexia is for the school to develop a plan with the parent of dyslexics to meet their challenges. However, if the dyslexics current school is unprepared to address this condition, the child need to be transferred to another school with better plan and facilities to handle dyslexia.

In addition, a good treatment plan should focus essentially on strengthening the child's weakness while utilizing the strengths. A multisensory method or Slinger method, the Orton-Grillingham method or READ PROJECT which requires the dyslexic to hear, see, say and do something, could be used (Ise and Schutte-Korne 2010)

However, most practitioners quite often incorporate the Kinesthetic method also called the language-experience therapeutic method to manage dyslexia. In schools this method can be used in regular classroom of today. This involves classroom teacher soliciting words to be learned by the dyslexic. These words are often repeated overtime until it is mastered. When a storehouse of words is acquired the dyslexic is required to compose a story. The story is written by the teacher and any new word that appears in the story is equally taught. The dyslexic can go on to read and read it again.

In improving a dyslexic reading, the teacher should not read like non-dyslexic does. The teacher should find a way of getting information from text that works efficiently for someone who possesses such information differently from the majority. According to researchers, (e.g. Mc Candiss et al 2003, Jones 2009) for alphabet writing system, the fundamental aim is to increase the child's awareness and phonemes and relate these to reading and spelling. Studies have shown that training focused towards visual language or orthographic issues show better gains than mere oral phonological training in managing dyslexia (Jones et al 2009).

Educational implications

This paper has far reaching implications for education. It has further revealed the facts about some school children in our system that are affected by dyslexia, and if left undetected could be a serious problem to the child. Also, the paper have provided, teachers and parents with possible cues to look out for in children to detect earlier problem of dyslexia

The paper further showed that teachers ineffectiveness, academic inadequacies, parental and home pathological environments and perhaps inadequate satisfaction of basic psychological needs at home and in the school are implicated as likely contributory factors in dyslexia.

Recommendations

i. As regards suggestions for intervention programmes, there is need for the teacher to make judicious use of reinforcement strategies. Reinforcement should be given for efforts as well as achievements. The teacher's instructional strategies should elicit self-esteem, love, and responsibility on the part of the child.

ii. The teacher should make optimal use of meaningful learning materials in teaching. This makes for intrinsic motivation in which school becomes more meaningful to the dyslexic than mere rigid regulations. Since the academic demand on a child with dyslexia may be great, there should be frequent breaks in class and homework time. There should also be regular meetings of parents and teachers in order to have a framework for a common forum to discuss and possibly identify problems of pupils as well as help in the mutual process of child's training for optimal productivity.

iii. Appropriate screening and identification test instrument should be made available to schools to help in early identification and referrals to special schools in severe cases

iv. A consortium approach involving specialist in educational psychology, medical neurology special education linguists (e.g speech therapist) etc may make the optimal combination.

v. Workshops on dyslexic children needs to be held among school teachers in Nigeria to help them understood these unique pupils the more and thus modifying their learning needs appropriately.

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