TEACHERS' PERCEPTION OF THE USE OF HYPERTEXT APPLICATION FOR IMPROVING ENGLISH READING SKILLS OF SECONDARY SCHOOL DYSLEXIC STUDENTS FOR SUSTAINABLE CURRICULUM DELIVERY

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Abstract

Dyslexia is a learning disability which threatens the academic success of many students. This learning difficulty has been observed by the researchers among the students in Njikoka Local Government Area, Anambra state. Hence, this study investigated the use of hypertext application for improvement of English reading skill of secondary school dyslexic students for sustainable curriculum delivery. Descriptive survey research design was adopted for the study and two research questions guided the study. The population of the study comprised all the 40 English language teachers in the 11 public secondary schools in Njikoka Local Government Area. No sampling was done as the population is of manageable size. A 14-item questionnaire titled "Use of Hypertext Application for English Reading Skill Questionnaire" (UHAERSQ) was used for data collection. The instrument for data collection was validated by three experts, two from Department of Educational Foundation, Faculty of Education, Nnamdi Azikiwe University, Awka and one English language teacher from senior secondary school. The reliability of the instrument was tested with Cronbach Alpha which yielded reliability index values of 0.70 and 0.72 respectively for the two clusters. Data collected were analyzed using mean. The findings of the study revealed that the use of hypertext application improved English reading skill of senior secondary school dyslexic students. In addition, the study indicated that the use of hypertext application is of benefit to secondary school dyslexic students. The researchers therefore recommended among others that government should equip secondary schools with enough e-learning facilities such as computer, laptop to enable sustainable curriculum delivery for dyslexic students in particular and other students in general.

Key words: Hypertext application, improvement, dyslexic students, reading skills, sustainable curriculum delivery.

Introduction

Technology in recent times had been greatly employed in different forms to improve teaching and learning activities in the education system all over the world. This was necessitated by various learning challenges observed among the students and attempt to find solutions to such issues, brought about many discoveries. One of such learning difficulties that threaten the academic activities of students in the school is the inability to read and comprehend accordingly. This could be attributed to many factors among which are: poor reading habits, lack of concentration, failure of teachers to adequately capture the interest of the learners and generic problems such as dyslexia.

Generally, dyslexia is seen as a learning disability which mainly affects reading and writing. It affects learners in different degrees ranging from difficulty in spelling words, inability to recognize and connect words, pronouncing words when reading aloud and understanding what is read etc. Dyslexia according to Smirni, Vetri, Misuruca, Cappadonna, Operto, Pastorino and Marotta (2020) is impairments in the recognition, decoding, spelling and reading of words. Soriano-Ferrer (2021) explained that dyslexia is a neurodevelopment disorder resulting in weakness to read words despite having good levels of intelligence and education and an acceptable socioeconomic level background. It is a learning disorder where a person has difficulty in reading and interpreting what is read. Dyslexia is quite different from autism because it is a learning difficulty while the later is developmental disorder. Dyslexia does not suggest that a person has low intellectual ability as most students with dyslexia may have better intelligence than average or regular students. National Institutes of Health (2016) stated that dyslexia could be caused by the interaction of genetic and environmental factors and it is different from ordinary reading difficulties, insufficient teaching or learning opportunities.

Dyslexia can occur in different forms but there are usually no official diagnostic types of dyslexia except that new classifications of it is basically of four types which are identified based on the symptoms manifestations. These according to Sruthi (2022) are: (i) Phonological dyslexia also known as dysphonetic or auditory dyslexia. Students who have this type of dyslexia have difficulty in processing sounds of the individual letters and syllables and are not able to match them with the written forms. (ii) Surface Dyslexia, also called dyseidetic or visual dyslexia is often associated with difficulty in recognizing whole words as a result of vision issues or visual processing difficulties in the brain. Individuals with this type of dyslexia have problems in recognizing words and as such may have difficulty in learning and memorizing words. (iii) Rapid naming deficit: This type of dyslexia makes it difficult for a person suffering from it to quickly or automatically name a letter, number, colour or object because the processing speed is low. (iv) Double deficit dyslexia: Individuals suffering from this type of dyslexia have

problems in both phonological process and naming speed. Many of the weakest readers are found in this category.

There are various ways of identifying students with dyslexia depending on the type. Identification of phonological dyslexia include difficulty in pronouncing unfamiliar words, difficulty in learning words, slow reading, avoiding reading activities etc. Surface dyslexia is identified with difficulty of whole word recognition, difficulty with spelling, slow reading, avoidance of reading activities and difficulty of reading new words by sight. Identifying rapid naming dyslexia could be found in the students' inability to retrieve words, frequent substituting of words or leaving out words entirely, slowness in completing reading or writing activities and using gestures in place of words, while double deficit dyslexia is identified through poor naming speed rate and weak phonological awareness. However, dyslexia could be primary when it is from genetically inherited condition and secondary, if it is as a resultant effect of problem with brain development during the early stage of pregnancy or acquired when a traumatic brain injury affects the brain center responsible for language processing. No matter the type of dyslexia, one obvious thing is that a dyslexic student/person experiences learning difficulty especially in reading and writing. Ahmed (2018) added that it is essential to teach dyslexic students with effective technological methods so as to improve their reading skill.

Dyslexia is one of the most common learning disorders found among students in the school system. Wang and Bi (2022) stated that it affects the academic performance of 5-10% students worldwide. Students who experience this type of learning difficulty in Nigeria face a lot of challenges considering the learning environment provided in most public secondary schools in the country; where most classrooms are designed to generally accommodate both regular and students with special needs. This situation makes it difficult to give special attention to students with learning difficulties. With this development, many dyslexic students struggle with the challenges of moving on with other regular students without eventually realizing their full potentials in life. This actually was what prompted the researchers to delve into this study as they have taught English language in secondary schools for many years in the past and have observed some challenges faced by dyslexic students due to the reading difficulty they encounter; as reading is one of the basic foundations for academic success. This may also be the reason why Association of International Dyslexia stressed that it is very important to identify dyslexic students for adequate teaching attention in the classroom to guarantee their success in academics. Doing this will undoubtedly make curriculum delivery of English reading skill sustainable for dyslexic students in particular and other students in general.

Sustainable curriculum delivery could be viewed as a form of transformation and change in education not just based on knowledge. It implies inclusive and life-long learning for students. Sustainable curriculum delivery utilizes education resources to meet with the present needs of today's students as well as maintaining the environment, social, academic and economic activities for continuous yield and provisions of resources for the next generation. Nuradden (2011) asserted that sustainable curriculum delivery is that type of teaching and learning that meets the needs of the present without compromising the ability of the future generation to meet their own needs. Department of the Environment, Water, Heritage and the Arts (DEWHA) (2009) explained that sustainable curriculum delivery will equip students with the skills to learn and develop their own skills to meet with the changing world. In view of this, sustainable curriculum delivery enhances participation for all student especially dyslexic students for the improvement of their reading skills.

Regarding this, for a nation to achieve this laudable goal, its educational sectors should be equipped with the necessary educational resources, facilities and technological gadgets in order to meet up with the growing challenges of the world through the use of e-learning resources. In view of this, technological gadgets or tools are required for sustainable curriculum e-learning delivery as technology makes teaching and learning easier and accessible for all students irrespective of their abilities and disabilities. The possibility of this in today's world greatly hinges on one's knowledge and ability to utilize technological gadgets in academic setting for the enhancement of learning of both regular and dyslexic students. One of such gadgets or tools for e-learning is the use of hypertext application.

Hypertext generally refers to the system of managing information that relates to plain text for better understanding of the text. It is a computer software and hardware that enable users to create, store and view text as well as move between related items easily in a non-sequential manner. It is also a non-linear structure, which contains references to other text or content through the use of a net structure. The references are often implemented through hyperlinks; which is created in markup languages such as Hypertext Markup Language (HTML) or Extensible Markup Language (XML). These markup languages contain explicit instructions for the visual formatting of texts along with the hyperlinks. When users click on such a link, they will have direct access to the content; which provides interactive reading experience. This non-linear knowledge database was developed by an American computer scientist, Ted Nelson in 1965 to solve the problem of linear presentation of text before the invention of World Wide Web (www). The linear presentation had the disadvantage of one having to read texts page by page especially long texts with their coherent parts in different pages, and would have to finish the entire work before making up the whole idea of the text. This makes reading often cumbersome,

which prompted the researchers to get to better ways of making reading easier and more interesting. Suffice it to say that the use of hypertext did not immediately become popular till the emergence of www, which is the most widespread system of hypertext in use today. Since then, reading has been transformed to become easier and accessible to people of all classes irrespective of one's shortcomings.

Reading generally is a complex task which requires earlier attention if one must achieve significant academic success. As an active receptive skill which enables individual to derive information from printed material, Ikwuka (2021) opined that the process involves the interaction between the reader and the text which demands understanding and interpretation of meaning. This explains the necessity to give all students especially dyslexic ones equal opportunity to engage in reading activities with ease. Neurman, Coople and Bredekamp in Hardianti (2019) explained that reading is very essential for everyone's academic success. Thus, reading activities ought to be made interesting to dyslexic students. Online application in reading exercises such as the use of hypertext has made reading interesting and fun for children and students as well. Maslawati (2012) buttressed that with hypertext reading, teachers and experts cease to become sole sources of knowledge for students. This implies that with such development, students become mentally active and explorative. They have opportunity to explore, derive meaning and expand their knowledge and comprehension of reading materials instead of always being passive and dormant listeners. Consequently, a good number of researchers had carried out studies both within and outside Nigeria on the use of hypertext application in improving students' reading skill.

Paula, Les Howles and William (2014) discovered in their study on enhancing L2 reading comprehension with hypertexts format that the use of hypertext application facilitated reading comprehension with less effort than print readings. Also, Maslawati, Harieza and Shahizan (2015) also found out in their study involving first year off campus students registered in the Allied Sciences Faculty enrolment in an English course that students do not like any hypertext reading materials, which were considered too lengthy and as such avoided such materials. In addition reading hypertext materials containing small-sized words with a narrow gap between the lines was taken to be problematic. Furthermore, the study by Hamdan, Maslawati and Shahizan (2017) on hypertext reading materials disclosed that features that are beneficial in using hypertext application include pictures, tables, diagrams, audio materials and videos along with the text. Also, other beneficial identified features are hyperlinks and glossaries provided by the websites that the students found advantageous in helping them to understand the text.

However, the unfavourable aspects were found to be advertisements on the websites, poor internet connections and bandwidth speed. These were marked to cause distractions

to the participants and as such affected their concentration to a certain degree. Again, Awatif (2017) discovered from the study on the effect of using hypertext web browsers on EFL university students' achievement in writing academic essays in English compared to using other two writing approaches –the product writing approach and the process writing approach that there were statistically significant differences in the mean scores of the post-written essays of Group C due to browsing the web for relevant information on current events. It was therefore the disparity in the findings of these studies that prompted the researchers to go into this study in order to determine the use of hypertext application in improving the English reading skill of dyslexic secondary students for sustainable curriculum delivery.

Research Questions

1. What is the teachers' perception on the use of hypertext application in improving English reading skill of dyslexic students for sustainable curriculum delivery in Njikoka Local Government Area?
2. What are the benefits of using hypertext application in improving English reading skill of dyslexic students for sustainable curriculum delivery in Njikoka Local Government Area?

Method

A descriptive survey design was employed in this study. The population comprised 40 English language teachers of senior secondary school (SS2) in the 11 public senior secondary schools in Njikoka Local Government Area, Anambra state. The sample of the study was all the 40 English language teachers in the area because their number is of manageable size and as such there was no sampling. Two research questions guided the study. The instrument for data collection was researchers developed 14 item questionnaire made up of two clusters of A and B titled "Use of Hypertext Application for English Reading Skill Questionnaire (UHAERSQ) to get the required information from the English language teachers. Cluster A consists of 7 items which sought information on the use of hypertext application for improvement of secondary school dyslexic students' English reading skill for sustainable curriculum delivery. Cluster B sought information on the benefits of using hypertext application in improving dyslexic students' English language for reading skill for sustainable curriculum delivery. The questionnaire has four points Likert rating scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SA). The instrument was validated by three experts from Department of Educational Foundations, Faculty of Education, Nnamdi Azikiwe University, Awka and one experienced senior secondary English language teacher. The reliability of the instrument was obtained using Cronbach Alpha method which yielded reliability indexes of 0.70 and 0.72 for cluster A and cluster B respectively. Data collected were analyzed using statistical measure of mean. Thus, the cut-off point for

accepting mean score was 2.50 with the decision rule that any weighted mean score of 2.50 and above was taken as agreed while weighted mean below 2.50 was regarded as disagreed.

Results

Table 1: Mean Rating of Teachers on the Use of Hypertext Application in improving English Language Reading Skill of Dyslexic Students for Sustainable Curriculum Delivery

S/N	Use of hypertext application in improving English language reading skill of dyslexic students	Mean	Remark
1.	Reading printed texts are easy for dyslexic students	1.20	**Disagree**
2.	Teaching English language to dyslexic students require technological tools	3.06	**Agree**
3	Teaching English language with hypertext application will improve the reading skill of dyslexic students.	2.75	**Agree**
4	The use of hypertext application to teach English language to dyslexic students will make reading easy for them	2.50	**Agree**
5	Providing hypertext applications for teaching English language to dyslexic students will reduce their reading difficulties	2.55	**Agree**
6	Provision of computers to facilitate the use hypertext applications will improve English language reading skill of dyslexic students	2.73	**Agree**
7	Using hypertext application in teaching English language to dyslexic students will encourage their participation in reading activities	3. 24	**Agree**
	Mean of Means	2.58	**Agreed**

Data in Table 1 indicate that item 2 with the mean cut off of 3.06 shows that that teachers agreed that teaching English language to dyslexic students required technological tools. Item 3 with the mean cut off of 2.75 showed that teaching English language with hypertext application will improve the reading skill of dyslexic students. Item 4 with the mean cut off of 2.50 revealed that teachers agreed that the use of hypertext application to teach English language to dyslexic students will make reading easy for them. Item 5 with the mean cut off of 2.55 indicated that teachers agreed that providing hypertext application for teaching English language to dyslexic students will reduce their reading difficulties. Item 6 with the mean cut off of 2.73 revealed that teachers agreed that provision of computers will facilitate the use of hypertext application in improving English language reading skill of dyslexic students. Item 7 with the mean cut off of 3.24

showed that teachers agreed that using hypertext application in teaching English language to dyslexic students will encourage their participation in reading activities. On the contrary, Item 1 with the mean of 1.20 below the cut-off point of 2.50 indicated that teachers disagreed that reading printed text are easy for dyslexic students. The mean of means of 2.58 showed that the use of hypertext application assists in improving English language reading skill of dyslexic students for sustainable curriculum delivery.

Table 2: Mean Rating of teachers on the benefits of the use of hypertext application in improving English language reading skill of dyslexic students

S/N	Benefits of using hypertext application in improving English language reading skill of dyslexic students are:	Mean	Remark
1.	The use of hypertext application will improve phonemic awareness of dyslexic students	2.53	**Agree**
2.	It will ameliorate their reading difficulties	2.89	**Agree**
3	It will aid dyslexic students' comprehension of reading passages	2.66	**Agree**
4	It will make the teaching of reading interactive in the classroom	2.73	**Agree**
5	It will encourage dyslexic students' participation in reading exercises	2.50	**Agree**
6	It will develop the reading habit of dyslexic students	2.64	**Agree**
7	It will boost their vocabulary acquisition skill	2.28	**Disagree**
	Mean of Means	2.60	**Agree**

Data in Table 2 show that item 1 with the mean cut off of 2.53 revealed that teachers agreed that the use of hypertext application improved phonemic awareness of dyslexic students. Item 2 with the mean cut off of 2.89 indicated that teachers agreed that the use of hypertext application ameliorated dyslexic reading difficulties. Item 3 with the mean cut off of 2.66 showed that teachers agreed that hypertext application aided dyslexic students' comprehension of reading passages. Item 4 with the mean cut off of 2.73 indicated that teachers agreed that hypertext application made reading interactive in the classroom. Item 5 with the mean cut off of 2.50 revealed that teachers agreed that hypertext application encouraged dyslexic students' participation in reading exercises. Item 6 with the mean cut off of 2.64 showed that teachers agreed that hypertext application developed the reading habits of dyslexic students.. Nevertheless, item 7 with the mean score of 2.28 below the cutoff point of 2.50 showed that teachers disagreed that the use of hypertext application will boost the vocabulary acquisition skill of dyslexic students. The mean of means of 2.60 showed that the use of hypertext application is

beneficial in improving English reading skill of dyslexic students for sustainable curriculum delivery.

Discussion

Use of Hypertext Application Assists in improving English Language Reading Skill of Dyslexic Students for Sustainable Curriculum Delivery

The findings of the study revealed that hypertext application assists in improving English language reading skill of dyslexic students for sustainable curriculum delivery. This may be due to the fact that ordinarily dyslexic students find reading and understanding printed text difficult due to their shortcomings in pronouncing unfamiliar words; but with the use of hypertext application, the reading skill improved. This finding of the study is in tandem with the findings of Paula, Les Howles and Williams (2014) who asserted that hypertext application facilitated reading comprehension with less effort than print readings. In addition, the use of hypertext application in improving dyslexic students' reading skill could be linked to the fact that technological aids enhance students' reading difficulties and facilitate their comprehension ability. This is in tandem with the study of Maslawati (2012) who concluded that with technological development; students become mentally active and explorative thereby increasing their comprehension ability.

The Use of Hypertext Application is Beneficial in improving English Reading Skill of Dyslexic Students for Sustainable Curriculum Delivery

The findings of the study indicated that hypertext application is beneficial in improving English reading skill of secondary school dyslexic students. This may not be unconnected to the fact that hypertext application enhances the reading skill of dyslexic students and boost their comprehension ability. The finding of the study is in agreement with the findings of Hamdan, Maslawati and Shahizan (2017) who disclosed that the features in hypertext application such as pictures, tables, diagrams, audio materials and videos along with the text are beneficial in improving students' reading skill. Moreover, it could be linked to the fact the e-learning tools make reading easy and enjoyable to readers and learners because they have access to browsing for more information. This finding concurred with the finding of Awatif (2017) who revealed that using hypertext web browser benefited students in English language due to web browsing to obtain relevant and current information. The benefits as showed in this study include improvement in dyslexic students' phonemic awareness, easing of their reading difficulties, understanding of reading passages, making class reading exercises interactive; encouraging dyslexic students' participation in reading exercises as well as developing their reading habits. This is also in line with the findings of Hamdan, Maslawati and Shahizan (2017) who revealed that hypertext is advantageous in helping dyslexic students to understand the text easily.

Conclusion

Based on the findings of the study, it was concluded that the use of hypertext application enhanced the English reading skill of dyslexic students for sustainable curriculum delivery. In addition, hypertext application has a lot of advantages in helping dyslexic students to understand English reading skill.

Recommendation

The following recommendations were made based on the findings of the study

1. Anambra state Ministry of Education should organize seminars, workshops and conferences for English language teachers on the use of hypertext application for improving dyslexic students' reading skill in particular and other students in general.
2. English language teachers should as a matter of urgency employ the use of hypertext application in teaching and learning of English reading skills for sustainable curriculum delivery.

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