

EFFECT OF BRAIN INTEGRATION THERAPY IN HANDLING READING PROBLEMS AMONG PRIMARY SCHOOL PUPILS IN IMO-STATE

Umunna Chioma Gloria & Ndubuisi May .C.
Dept of Educational Psychology/ G&C
Alvan Ikoku Federal College of Education Owerri

Abstract

The thrust of this paper was to investigate the effects of Brain Integration Therapy in handling reading problems of primary school students in Imo state. Inability to read is a problem to the learner, the teacher and the society. The students who have reading problems need help to overcome their difficulties. It is for this reason that the researcher sought to use Brain Integration Therapy to handle students with reading problems. The participants were 50 primary school pupils in primary four from two randomly selected primary schools in Orlu local Government Area in Imo state. There are two groups, one treatment and one control group. A researcher made English language Reading scale (RMERS) was used to collect the data. Two research questions and two hypotheses guided the study. Mean and standard deviation were used to answer the research questions, while Analysis of Covariance was used to test the hypotheses. The findings indicated that the Brain Integration Therapy effectively improved the reading problems of the students and there was no gender differences on the students exposed to the therapy. The work was concluded with a recommendation to introduce Brain Integration Therapy early enough in handling pupils in reading exercises.

Introduction

It has been a great concern to many psychologists and well-meaning educationists why many students avoid school, despite the non-tuition declared by many States in the federation. Among other factors that could cause school avoidance is reading problems. Ashami and Igwue (2013) writing on learning disorders among students stated that reading problems are the most common type of learning disorders and children having such problems have difficulty in recognizing, interpreting letters and words (dyslexia). Yusuf, Durusaro and Adeoye (2010) submitted that students have problems in reading and in comprehension across all levels of education. Reading disorders affects any part of the reading process and of all students with specific learning disorders 70-80 percent has difficulty in reading, (Igbo 2010). Students who cannot read are unhappy, anxious and are emotionally tensed up when they remember school. The reason hubs on the fact that they may be called up in the class during oral reading to read, or to contribute to the learning experience, and continuous unsuccessful attempts by these students may attract laughter, ridicules from their peers or classmates. These at times cause tension, low self-esteem, fear and anxiety to these children who in turn react to their feeling either by avoiding school or become truants, bullies or constitutes to other forms of insecurity in the school

environment (Okwara and Umunna 2014).The importance of reading however, cannot be over emphasized. Inability to read is a problem to the learner, the teacher and the entire society at large. If problem of reading is not addressed or corrected at the foundational level; the learner becomes truncated and cannot move forward in life. Reading helps one to become a lifelong learner, one also learns reading by reading which helps one to solve problems. Reading is a complex brain activities and a powerful weapon whereby one uses to learn the world within, and through the curriculum contents of all the subjects taught in the schools. Reading begins with visual input which is a necessary viable tool of collaboration which is the 21st century highest needed tool. One of the basic fundamental skills that should be properly taught to a child early enough is reading and proper method should be used to achieve effectiveness. Urgent step must be taken to curb, ameliorate this problem as the heightened level of this inability to read could lead the individual to drop out of school due to frustration and when these happens, troubles loom the corner as some may turn to miscreants. Schwab (2015) advocates a better reading plan for struggling readers. To him struggling readers have low self-esteem, people learn differently when taught the way their brain learn, they understand and have the tools to learn in their individual way, then they can feel good about themselves.

BIT is a type of eye tracking therapy or an eye exercise which is done to establish a reconnection between the brain and the eyes. It is bringing a commutative links to the brain, thus making the eye motion becomes smooth and fluid. This exercise makes the learner to develop the ability to focus and concentrate. As soon as the brain easily communicates to the eye, correct motor movement becomes automatic. (Mc Crossin, 2016).

A study by Shaywitz and Shaywitz (2004) showed that the deficit in the language systems of the brain affects the individual struggling readers. In their study, there are three main areas in the brain devoted to reading. According to the study, the inferior frontal gyms, or Brocas area, situated at the front of the brain and responsible for speech articulation. The second area in the brain is the parieto-temporal area, situated at the back of the brain, as this is responsible for analyzing and sounding out parts of words; and the third part is; The Occupito-temporal area which is situated aat the back of the brain and it is responsible for synthesizing all information related to words, sounds, and for recognizing words in instantly.

- The parieto-temporal area, situated at the back of the brain and responsible for analyzing and sounding out parts of words; and
- The occupito-temporal area, also situated at the back of the brain and responsible for synthesizing all information related to words and sound, and thus for recognizing words instantly. Katarira noted three parts of the brain that are involved in reading.
- Thea temporal lobe which is responsible for phonological awareness and decoding/discriminating sounds.
- The frontal lobe handles speech production, reading, fluency, grammatical usage and comprehension, making it possible to understand simple and complex grammer in our native language.

- The angular and super marginal gyrus serves as a “reading integrator” a conductor of sorts, linking the different parts of the brain together to execute the action of reading. These areas of the brain connect the letters c, a and t to the word cat that we then read aloud. The eye tracking exercises that is part of BIT helps to make connection possible and activate the parts of the brain responsible for reading thus, helping the brain to store and recognize words.

The brain integration therapy has a total numbers of seven teaching steps. The first is the eye, ear, toe touch, fencer and cross crawl exercises. This is done at the beginning of reading to simulate good integration between the right and left brain hemisphere. The second is the decoding, the third is the dictation, the fourth is the sight words, fifth is the pre-reading, the sixth is the oral reading and lastly, the reading comprehension training. For the purpose of this work, the research shall adopt the first, second and third steps for effective management of the pupils that are involved in the study and as the package is tailored toward priming the brain to make a link with the eyes for word recognizing. The aim is dealing with the cause of the reading problems. As it has been reported by a study by Okwara-Kalu (2013) that poor reading amounts to poor academic performance. The onus then lies on the teachers who are the fulcrum of education to reduce a way of ameliorating the danger inherent in reading disability. It was against this backdrop that the researchers set to investigate the effect of BIT on reading problems of primary school students.

Research Questions

1. What is the difference between the mean achievement scores of students taught reading problem using brain integrating therapy and those taught using Conventional method.
2. What is the difference between the mean achievement scores of male and female students taught reading problem using brain integrating training.

Research hypotheses

Two hypotheses were raised to guide the study and they are;

HO1: There are no significant effects of brain integration therapy on reading problems of students exposed to it.

HO2: There is no significant gender difference on the effect of BIT on reading problems among students.

Method

A quasi experimental design was adopted for the study. A quasi-experimental design as defined by Onyekwere and Nwoha (2013) is a design which can be used to appropriate the condition of the experiment in a setting which does not allow the control and/or manipulation of all relevant variables. The study adopts a two group design involving a pretest and posttest. The research design has two groups. All primary school pupils in Imo State formed the population for the study and all primary four students in Orlu Education Zone constituted the target population.

Multistage sampling techniques were used in selecting the sample for the study. Then two schools were selected purposively. Fifty (50) students each from the two schools who scored below 35 marks out of one hundred marks were selected and assigned to groups.

Validity of the instrument:

The validity of the instrument was done by two experts in educational psychology and one expert in measurement and evaluation in Alvan ikoku federal college of Education.

Reliability:

The reliability of the instrument was determined using test-retest method. The researcher administered the instrument to twenty five students in primary four who were not part of the study. After interval of three weeks, the same instrument was re-administered and the scores generated from both were correlated using Perason's product moment correlation co-efficient which gave a reliability of 0.88 which shows that the test was highly reliable.

Procedure:

The collection of data for this study was done in three phases, the pretest, the treatment and the post-test. The pre-test stage involves the administration of the test items firstly to pupils, then their scripts was marked and graded. This was done with the help of the research assistant. The pupils were given coded numbers, and their scores were recorded against their names. Treatment phase has to do with the manipulation of experimental conditions using brain integration therapy for 8 weeks. The exercise lasted for 45mins each day for four days in a week. At the end of the 8 weeks, the researcher re-administered the instrument to them in a reversed order to ascertain the effects of the method on the students reading problems.

Treatment:

The participants for the study were purposively assigned into treatment and control groups. The students in the treatment group were exposed to brain integration training which involved eye tracking exercise, drill, words colour reading, visual representation of words, syllabic reading and treatment of unfamiliar words, sight words, phonograms, words parts, sentence context and pictures. To improve the reading ability of the students. The treatment was done four times in a week for six weeks. The duration for each section was 45mins. A take home assignment was given to the participants at the end of each training exercise. The control group was taught the same comprehension passages as done with the treatment group but conscious effort was made not to introduce any of the skills used for the treatment group. At the end of the treatment period, both the treatment and control groups were post-tested and their scores were graded.

Results

Table 1: Mean and Standard deviation on Mean achievement scores

Group	Test	N	Mean	SD	Mean Gain	Difference in mean
Experimental	Pre-test	50	5.83	1.52	7.92	
	Post-test	50	13.75	2.80		3.16
Control	Pre-test	50	6.04	1.71	4.76	
	Post-test	50	10.00	2.75		

Results in table 1 shows that the experimental group had a mean of 7.29 while the control group had 4.76. This gave difference in Mean of 3.16 in favor of the experimental group.

Table 2: Mean and Standard Deviation on gender

Gender	N	Mean	SD	Mean Difference
Male	25	49.02	11.07	0.07
Female	25	48.95	16.07	

Table 2 shows that the difference in Mean of 0.07 exists between the mean achievement of the male and female pupils taught reading using Brain Integration Therapy.

Testing the hypotheses

Hypothesis 1: there is no significant difference in the reading problem of the students exposed to brain integration training and those not exposed to it.

Table 1: Summary results of ANCOVA on pretest and post treatment test of BIT and control group.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	11378.149 ^a	4	2844.537	96.984	.000	.896
Intercept	2165.357	1	2165.357	73.827	.000	.621
PreTest	1258.597	1	1258.597	42.912	.000	.488
Method	7951.650	1	7951.650	271.109	.000	.858
Gender	.935	1	.935	.032	.859	.001
Method * Gender	13.385	1	13.385	.456	.503	.010

Error	1319.851	45	29.330		
Total	90316.000	50			
Corrected	12698.000	49			
Total					

From table 1, the compared value of the students exposed to Brain integration Training and the control group tested at 0.05 level of significant indicated calculated value ($F = 271.109$; $Sig. = 0.000$), therefore the hypothesis that there is no significant difference in the reading problem of the students exposed to Brain Integration Therapy was thus rejected. The results showed that there is a significant difference and Brain Integration Therapy is effective for solving reading problems among primary school students.

Hypothesis 2: There is no significant gender difference on the effect of BIT on reading problems among students.

From table 1 also, it could be seen that the calculated value ($F = 0.032$; $Sig. = 0.859$) showed that there is no significant difference between the males and females exposed to brain integration therapy. The hypothesis that stated that there is no significant gender difference on the effect of BIT on reading problems among students was therefore accepted which shows that Brain Integration Therapy is effective both for the male and female student who are struggling readers.

Discussion

The results of the study showed that pupils taught reading using brain integration had higher mean scores than the pupils taught using conventional approach the hypotheses showed a significant difference between the experimental and the control group. The findings of this study supported the findings of Sussan McCrosin (2013) who found brain Integration Therapy being effective in handling learners of varied ages and sexes. Also, the findings show that BIT is superior to conventional method of teaching pupils reading and spelling as it is effective in handling pupils who are struggling to read as reported by Al Fassi, (2007).

Also there is no significant difference on gender. This implies both male and female pupils' benefits from the study. This result agreed with the finding of Sussan McCrosin (2013) who found brain Integration Therapy being effective in handling learners of varied ages and sexes.

Conclusion

The study concluded that BIT improves teaching and learning of English language especially in reading irrespective of sex.

Recommendation

Based on the findings of the study the following recommendation were made;

1. Since BIT improved the reading problems of the pupils, the curriculum planners should review the primary school curriculum so as to accommodate BIT to improve the reading skills of pupils in primary schools.
2. There should be more time allocated in teaching reading in primary school to enhance effective interaction between peers, teachers and subject matter as this informal interactions enhance learning.

References

- Andrew, A. E. (2010) Psychological Approach to the management of Dyslexia. *Journal of the (NISEP)* 8 Oct 2010.
- Ashami B and Igwue Bro (2013) learning Difficulties Among children A Challenge in the Implementation of Universal Basic Education. *A Journal Nigerian Council of Educational Psychologists* Vol 7, No 1, Sept, 2013, <http://www.mayfieldclinic.com/pe>. Ahat Brain htm retrieved 1st Sept, 2016. comprehension retrieved 20th April 2016.
- Hall, S (2009) what are some early warning signs of a reading difficult? Ed D print E-mail.
- Igbo J. (2010) Strategies for effective reading environment for Nigeria Society. *Gateway Library Journal* 2 and 7.
- Katarina J, (2015) Brain and Reading ability: A multi voxel Morph metric study. *Journal of Neuroscience*, 2013; 33 (31): 12835 Doi: 10.1523/JNEUROSCI.0449-13, 2013. Nigerian Society for Educational Psychologists (NISEP) Vol 8, Oct 2010.
- Nwoga A and Onyekwere N.A (2013); Attribution motivation and sex differences in mathematics performance among JSS students in Ahiazu Mbaise L.G.A reading problems among primary school students in Osun State. *A Journal of the*
- Sussan Mc Crosin (2013) Brain and reading problems (dyslexia): *A journal of neuroscience* (2013); 31
- Tyler Carolyn (2010). Factors that affect reading comprehension <http://www.comreading>
- Yusuf A.F, Durosaro, I. A and Adeoye E.A (2010) effects of play therapy in handling