

EFFECTS OF TASK ANALYSIS METHOD ON SIGHT WORD RECOGNITION SKILL OF STUDENTS WITH READING DISABILITIES IN JUNIOR SECONDARY SCHOOLS IN AZARE, BAUCHI STATE



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ABSTRACT

This study was carried out to examine the effects of task Analysis Method (TAM) on sight word recognition skill of students with reading disabilities in Junior Secondary Schools (JSS) in Azare Bauchi state, Nigeria. One research question and one hypothesis guided the conduct of the study. The study was a six-weeks experimental research which utilized true experimental design with randomized pretest-posttest control group. The total population for the study was 125 students with reading disabilities from Junior Secondary Schools One (JSS 1) in Azare town. Disproportionate stratified sampling technique was used to get a sample of 32 participants (16 males and 16 boys), out of the 45 students with reading disabilities in one school. The 32 students were then randomly assigned into experimental and control groups following lottery method. Two instruments for data collection were used. The data collected was analyzed using descriptive and inferential statistics. The study found that intervention using TAM was effective on the improvement of participants' poor sight word recognition skill in favour of the experimental group. It was recommended that TAM should be adopted for intervening poor sight word recognition skill of students with reading disabilities in Junior Secondary Schools among others.

Keyword: *Task Analysis Method (TAM); Sight word recognition skill; Reading disabilities; Students with reading disabilities; and Effects.*

Background of the Study

There are students with poor sight word recognition skill in secondary schools. Poor sight word recognition affect students' performance in examinations. Poor sight word recognition affects students' ability to read a text fluently which hamper the ability to comprehend a text. These affect students' ability to answer examination questions from passages. Some of the students with poor sight word recognition are students with reading disabilities. Reading disabilities is a condition that prevents the sufferer from adequately expressing Specific Reading Skills (SRS). Students with reading disabilities are students, despite adequate opportunity to learn, adequate number of teachers and availability of teaching facilities have no sensory difficulties and they face no form of cultural deprivation, they portray unexpected

underachievement in the class/school by manifesting spelling difficulties, written expression difficulties, inability for word recoding, too slow in word recognition, too slow in text reading, lack of automatic recognition of words by sight and lack of grapheme-phonem correspondences. These prevent the students with reading disabilities from comprehending a text (Clay, 2001, Moats & Tolman, 2009; Vernon, 2009). Personal interaction with Junior Secondary School teachers in Magama-Gumau and Bayara, indicated that many students find it difficult to recognize a word at sight.

Sight word recognition is defined as ability to recognize or identify a word, despite similarities in spelling of the word with other words and as a single word. When a reader cannot recognize most of the words presented to him/her, he is diagnosed to be a reader with poor sight word recognition.

Sight word recognition passes through three successive phases. In phase one, an unfamiliar word is recognized with increasing accuracy as readers attend to letter sound relationship each time they read the word. In phase two, as a result of more practice, a familiar word come to be recognized automatically as a whole with less attention and without deliberate processing of component letter-sounds (grapheme – phoneme correspondences). In the third phase, the word comes to be recognized with increasing speed as identification processes are consolidated in memory (Ehri & Snowling, 2004).

Sight word recognition problem can be intervened by asking participants to locate a word or two or more words in a text. Words can be segmented into morphemes and later joined together as words. Suffix like: - ly, - al, - ment, - less, - ful and – ous can be taught for easy recognition of words. Roots of words such as “nat” can be studied through families of words likes natal, native, nation and national for easy recognition. Flashcards can be used for recognition exercises. Sight word technique can be used for enhancing spelling. For example, a student can be asked to spell a word and later shown the word on a flashcard. A student can be shown number of words on cards and asked to select those words he/she could not tell its meaning. The participant could then be told its meaning. The participants can be shown as many flashcards as possible for them to read.

Students with reading disabilities are required to be exposed to sight word recognition skill through intervention using appropriate method like Task Analysis Method (TAM), in order to offer a background for reading a text fluently which aids reading comprehension. TAM refers to the procedure of teaching simple learning tasks such as sight word recognition in bit-by-bit which is carried out in form of teach-test-teach-test process. That is, in every bit of task taught, there will be immediate evaluation to ascertain whether it has been learned. If not the same bit of task is taught again, until the immediate objective is achieved. This study therefore was conducted to examine

the effects of Task Analysis Method on sight word recognition of students with reading disabilities in Junior Secondary Schools in Azare, Bauchi state.

Statement of the Problem

Students with reading disabilities with poor sight word recognition will continue to face difficulties in reading comprehension if not intervened. Poor sight word recognition negatively affects students' performance in examination involving reading comprehension due to the readers' inability to fluently read a text and answer examination questions from the text. Such students find it difficult to answer examination questions from passages. Students with poor sight word recognition require unique intervention such as Task Analysis Method. Therefore the researcher experimented on how task Analysis method (TAM) could be used to improve the sight word recognition skill of students with reading disabilities in Junior Secondary Schools in Azare, Bauchi state.

Purpose of the Study

The purpose of the study was to examine the effects of Task Analysis Method on sight word recognition skill of Junior Secondary School students with reading disabilities in Azare, Bauchi state. Specifically, to determine the extent to which TAM can influence the sight word recognition skill of students with reading disabilities after intervention.

Research Question

1. To what extent would TAM influence the sight words recognition skill of JSS 1 students with reading disabilities?

Hypothesis

1. There is no significant difference between sight words recognition skill mean scores of the experimental and control group after exposure to TAM.

Methodology

This study was an experimental research which utilized true experimental design. Specifically, the randomized pretest-posttest control group design. The choice of this design allowed for comparing the gain score of the experimental with control groups. This design allowed for measurement of similar traits when participants are available in groups (Slavin, 2008). The research design involved formation of sample (two sets of students with identical characteristics – experimental and control groups). Awotunde, Ugodulunwa and Ozoji (2002) stated that the pretest-posttest control group design features two groups drawn from the same population. The assignment of participants was through randomization (R).

This design was applied to both the mild and moderate students with reading disabilities in each of the experimental and control groups. Randomized pretest-posttest control group design guard against the extraneous variables of testing and prevent effects of pretest sensitization in both the experimental and control groups.

The main components of this research design used was (a) comparison (i.e. compare results of the experimental groups to those of the control group); (b) manipulation (i.e. exposing experimental group to intervention); and (c) control (i.e. ruling out factors that might threaten validity of the instruments). Awotunde, Ugodulunwa and Ozoji (2002) provided the schematic outline of this particular type of research design as follows:

R	O ₁	x	O ₂	-----	Experimental group
R	O ₃		O ₄	-----	Control group

O₁ and O₃ stand for pretest scores for experimental and control groups. O₂ and O₄ stand for the posttest scores for the experimental and control groups while X stands for intervention. In the context of this study, the independent variable is defined as Task Analysis Method (TAM) while the dependent variable is the sight words recognition skill of students with reading disabilities in the study area.

Population and Sample

Population of this study comprised of all the screened/diagnosed students with reading disabilities in Junior secondary school one (JSS 1) classes in all the seven (7) Junior secondary schools in Azare, Bauchi state. The researcher screened a total of 125 students (66 males and 59 females) with reading disabilities using High Frequency Words (HFW). The choice of JSS 1 was guided by the nature of the disabilities which require foundation in sight word recognition skill. The age range of the population was between 12-15 years. The classes were Junior Secondary School One (JSS 1) and both males and females were involved in the study. The screened participants were expected to atleast read items 1 – 10 of the HFW before being considered a reader. Any students with reading disabilities who failed to read item 1 – 10 of the screening instrument was considered a nonreader and was not included in the study since the researcher was concerned with those participants with mild and moderate reading disabilities.

Sample

The sample of this study comprised of thirty two (32) students with reading disabilities selected from JSS 1 of Ahmed Turaki Junior Secondary School. Numbers one and two on two folded pieces of paper were assigned to two schools with the highest population of students with reading disabilities. The researcher randomly picked number one paper and the school (Ahmed Turaki) with the picked number became the selected school for the study. The choice of the sample was guided by the

nature of the disabilities. The students with reading disabilities required individualized instruction. That was one-on-one instructional strategy from within a small group. The school was a co-educational school. Sixteen (16) each were assigned to the experimental and control group respectively. The sample equally comprised of both male and female students of equal proportion.

Sampling Techniques

The techniques involved in sampling the schools were purposive and simple random techniques. Out of the seven (7) schools screened only two has a reasonable number of students with reading disabilities (32 and above). The researcher therefore, randomly selected one school out of the two, following simple random sampling technique. This is because the researcher desired to have sixteen (16) students with reading disabilities in each of the experimental and control group. Numbers one and two were assigned to two schools and written on two pieces of papers and folded. The researcher picked number one paper and the school picked became the selected school for the study. In selecting male and female students to be included in the sample, disproportionate stratified sampling technique was applied to select 16 boys and 16 girls making 32 out of the 45 students with reading disabilities in the selected school. The 32 students were then randomly assigned into experimental and control groups following lottery method.

Instruments for Data Collection

Two instruments for data collection were used: 100 High Frequency Words (HFW) and Teacher-Made-Test on Reading Performance (TMTRP):

(a) 100 High Frequency Words (HFW): The HFW was adopted from Umolu and Mallam (1985) which was subjected to validity and reliability analysis. The HFW are the most commonly used words in reading and oral expression of students. They are hundred (100) in number. They are arranged in four sets of 25 words. The first 25 words is from numbers 1-25; the second set starts from numbers 26-50; third set begins from 51-75; and fourth set continuous from number 76-100. These sets of words are arranged in order of high frequency and difficulties. The HFW was used for screening students with reading disabilities. HFW was also used for sight word recognition intervention.

(b) Teacher-made-test on reading performance (TMTRP) comprised of five (5) passages, adapted from Chukwudifu, Abiona and Adebani (2016). Twenty (20) words were selected from each of the five (5) passages which totaled (20 x 5) one hundred (100) which were used for the sight word recognition intervention. Sets of 100 words from the 5 reading passages were used for sight word recognition skill intervention.

Data Collection Procedure

Two instruments namely HFW and TMTRP were used for data collection. The HFW was the basis of contacting students with reading disabilities. The researcher sat opposite the participant holding an identical copy of the participant's HFW such that the participant could not observe when she/he was being rated by the researcher. The researcher used biro so that the participant's attention was not disrupted by sound produced by the biro. The researcher asked the participant to read the HFW for him. If the participant committed error, the researcher will not comment. If the participant came to a word and hesitated for more than five (5) seconds, the researcher told him/her to skip that word and continue with next word, until the whole HFW were read. The total correct words read by the participant were then determined. The criteria for selecting students with reading disabilities comprised wrong blending of most HFW and taking longer time to read some of HFW. Any participant who read 10 or more of the first 25 words, the remaining 75 words were tested and entered on the participant's record sheet. Each correctly read HFW were considered one (1) mark and participants who failed to read up to 10 of 100 HFW were considered non-readers and were not included among the participants for the study. The 100 set of HFW were also used for sight word recognition intervention.

The researcher stood in front of the participant. The researcher showed HFW on flashcard for the participant to recognize it by reading it in not more than five seconds. The recognized word was dropped at the right hand side while the unrecognized word was kept at the left hand side. The total words recognized by the participant (out of 100 HFW) were then determined.

With regards to TMTRP, 100 words were selected from five (5) passages which comprised the Teacher-Made-Test on Reading Performance (TMTRP) adapted as one of the instruments for the study. Twenty words were selected from each passage (20 x 5) which totaled 100 words. Sight word recognition skills of each word were taught, for example, word was separated into phonemes, syllables and morphemes for easy identification. Suffix or prefix of a word was also considered for easy identification. The task-analyzed word in form of phonemes, syllables, prefix, suffix and morphemes was presented on flashcard for identification or recognition. Word was presented among words for identification. Each correctly recognized or identified word was scored one (1) mark (1 x 100) which totaled 100 marks. An average score of two set of 100 words were then determined.

Data Analysis Procedure

The data collected for this study was analyzed using both descriptive and inferential statistics. Research question was analyzed using simple percentage and mean scores while the hypothesis was analyzed using t-test for independent samples.

Results

Research Question One

- To what extent would TAM influence the sight words recognition skill of JSS 1 students with reading disabilities?

Table 1: Pre and posttest scores on sight words recognition

Sight words and HFW No. of words = 200				
S/n		Pre	Post	Gn.Sc.
1	Exp.	30	86	56
2		26	58	32
3		27	60	33
4		28	68	40
5		26	68	42
6		18	60	42
7		30	88	58
8		19	62	43
9		18	68	50
10		31	86	55
11		23	72	49
12		22	86	64
13		22	78	56
14		30	88	58
15		22	86	64
16		16	87	71
\bar{X} Gn.Sc.				50.81
17	Contr.	25	35	10
18		33	36	3
19		15	30	15
20		22	32	10
21		30	33	3
22		10	16	6
23		30	35	5
24		32	36	4
25		21	30	9
26		28	32	4

27	12	19	7
28	16	25	9
29	20	28	8
30	17	28	11
31	18	30	12
32	17	27	10
\bar{X} Gn. Sc.			8.88

Source: Fieldwork, 2018

Key:

Exp. = Experimental group

Contr. = Control group

Pre = Pretest scores

Post = posttest scores

Gn. Sc. = Gain scores

\bar{X} Gn. Sc. = Mean gain score

Table 1 above showed pre and posttest scores on sight word recognition skill of JSS 1 students with reading disabilities. Students performed low in sight word recognition in the pretest. The highest pre-intervention score was serial number eighteen and twenty four with 33 and 32 scores respectively.

However, after the intervention students' words recognition improved. Serial number seven and fourteen from the experimental group obtained the highest score which were 88 and 88 with gain scores 58 and 58 respectively. Followed by serial number sixteen with 87 with gain score of 71. the gain scores were the differences between pretest scores and posttest scores of the students. Accordingly, the mean gain score of the experimental group was 50.81 while the control group was 7.88. Therefore, the intervention was effective on participants' sight word recognition which favoured the experimental group.

Hypothesis One

1. There is no significant difference between sight words recognition skill mean scores of the experimental and control groups after exposure to TAM.

Table 2: Summary table of t-test on sight words recognition

Group	N	X	SD	df	t-Cal	α level	P-value
Experimental	16	75.06	11.66				
				30	12.19	0.05	0.000
Control	16	30.75	8.68				

Source: Fieldwork, 2018

Key:

N = Number of sample

\bar{X} = mean

SD = standard deviation

df = Degree of freedom

t – cal = t calculated value

α= significance level

p – value = probability value

Table 1 above showed an independent samples t-test which was conducted to compare the sight words recognition mean scores of the students in experimental and control groups after exposure to Task Analysis Method. The statistical package of social sciences (SPSS) version 17.0 was used to compute the t-test. The SPSS version 17.0 output of the analysis showed that the experimental group had a mean score of 75.06 and a standard deviation of 11.66 whereas the control group has a mean score of 30.75 and a standard deviation of 8.68. In addition, the calculated value of t was 12.19 while the p-value was 0.000. Since the p-value of 0.000 was less than 0.05, it means there was less than 1% chance that the difference between control and experimental groups on sight word recognition skill mean scores of JSS 1 students with reading disabilities after exposure to Task Analysis Method occurred by chance. Therefore the researcher rejected the null hypothesis and concluded that there was significant difference in the sight word recognition skill mean scores of the JSS 1 students with reading disabilities after exposure to TAM.

Discussion of Findings

The study examined the extent TAM could influence the sight words recognition skill of JSS 1 students with reading disabilities. One hundred sight words from the reading passages on flashcards were used. Also, one hundred HFW were used as sight words. Findings showed that students with reading disabilities performed low in sight word recognition in the pretest. However, after the intervention students’ words recognition improved. Therefore sight word recognition skill improved well through intervention using TAM. This finding confirmed previous findings by Henson (2001) that Task Analysis Method was efficacious.

Similarly, words on flashcards were more remembered by students with reading disabilities (Ehri, 1987; Andzayi & Umolu, 2004).

Equally, the study statistically analyzed an independent samples t-test to determine whether there was no significant difference between sight words recognition skill mean scores of the experimental and control groups after exposure to TAM. It was found that there was significant difference in the sight word recognition mean scores of the JSS 1 students with reading disabilities after exposure to TAM. Since Task Analysis Method is characterized with one-on-one, studies Bufalino, Wang, Gomez-Bettenge and Zalud (2010) found that students who received one-on-one reading recovery intervention improved in their reading skill. Moreover, vocabulary instruction or use of sight words led to better performance in achievement test (Ayodele, 2014).

Conclusion

From the results of the research question and hypothesis on sight words recognition skill of JSS 1 students with reading disabilities, Task Analysis Method (associated with use of flashcards) was found to be effective in intervening poor sight words recognition skill in students with reading disabilities.

Recommendations

Based on the outcome of this study, the following recommendations are hereby proffered:

1. Task Analysis Method (TAM) should be adopted for intervening poor sight words recognition skill in students with reading disabilities in Junior Secondary Schools.
2. Workshop should be organized by different authorities/ministries/departments and nongovernmental organizations (NGOs) on how TAM can be used in intervening poor sight words recognition skill in students with reading disabilities in secondary schools (Also in primary schools), using English language teachers.

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