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Socio-economic Background And The Relative Efficacy Of Self Drills On Factual Recall And Students' Achievement In English Language In Senior Secondary Schools In Nigeria

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Introduction

Factual recall is an aspect of memory which deals with the lower order cognitive functioning comprising of knowledge and comprehension. It is the aspect of memory which serves as the foundation for the higher order cognitive functioning which includes application, synthesis and evaluation of knowledge. Definitely, good factual recall ability is needed to enable man acquire knowledge and comprehension which form the basis for ability to apply, evaluate and synthesize knowledge at the higher levels of learning. Interestingly, factual recall skill is not present equally in all human beings. Some people have the capacity to keep things for long in their memory, while some forget every bit of information within a twinkle of an eye (Green, 2005).

Differences in human memory of things are thought to be due to various factors such as differential physiological make – up (Calvin & Ojemann, 1994); dieting, nature and nurture as well as health conditions (Rowlands, 1999). Memory is of particular interest to educational psychologists especially as it relates to learners' ability to perceive, encode, decode and retrieve information received as learning contents. Mueller and Shiffrin (2006) stated that when information is encoded by the cognitive system, episodic traces are formed by combining bottom – up perceptual information and environmental context with our long term knowledge of the world. Yet, this long term knowledge is formed through the continual accrual of the very experiences it helps to form. Thus, a better understanding of the memory processes is often sought to facilitate learning process.

Psychologists have concerned themselves with trying to understand why at times people recall and at other times they find it terribly difficult (to almost impossible point) to recall what were acquired (Okoye, 1989). Herrmann, Raybeck & Gutman (1993) explain that when memory fails us, it does so in one of three ways. It can fail to register something in the memory, it can fail to retain over time that which was successfully registered; or it can fail to remember something, despite successful registration and retention. Thus, forgetting occurs as a result of faulty or defective learning; as a result of defective encoding; and as a result of decay due to improper or inconstant use.

However, man needs good memory of things for if what is learnt cannot be recalled, learning has not taken place (Adesemowo, Sotanade & Okubanjo, 1998). So, there is a close link between memory and learning. In fact, conceptual definitions of learning as a relatively permanent change in behaviour as a result of experience, implies the use of memory (Okoye, 1989). Learning, the major goal of education, is measured in terms of academic achievement. This suggests that learners' memory has direct bearing on their academic achievement. This is why many students often complain of inability to remember lessons they have been taught or even passages they read over and over and which brought about their academic underachievement (Osiki, 2001).

Unfortunately, there has been a downward trend in secondary school students' academic achievement (especially in English language) in Nigeria in recent times (Uwadiae, 2005). This trend makes some

people believe that there is a falling standard in education in the country. Jaiyeoba and Akintepede (2002) believe that there is falling standard in education as seen in students' continuous poor performance in examinations and that the problem is attributable to students' inability to recall what is learnt.

Among the painful effects of academic underachievement are stigmatizations, drop out and lost of set goals (Salami, 2001). Gesinde (2004) asserts that poor performance in examinations do have negative effects on the candidates. It is also reported that poor performance in examination contributes significantly to examination malpractice cases now prevalent in public examinations. It has been suggested that the fear of failure lures candidates into adopting mal-adaptive strategies in examination (Uwadiae, 1997).

Learning becomes effective when learners engage in self drill and tell the material over and over to themselves (Ward, 2004). Drill is effective in encoding information into memory (Heffner, 2004). This can be done by transforming data into a meaningful form such as association with an existing memory, an image, or a sound. Muskingum College – Center for Advancement and Learning (CAL) (2004) recommends self drills in form of spaced reviews or repetition in studying because it helps to maintain interest and concentration. It also enhances comprehension, and retention of the information covered. Drill involves repetition of the same material several times. CAL (2004) says encoding information into memory is maximized by studying for short period of time and going over the same material repeatedly.

Some studies report that students from low socioeconomic status homes are more likely to leave high school before completion than the general population (Brown, Rosen, Hill, & Olivas, 1980). The low educational and occupational status of many students' families has been viewed as an influential determinant of students' memory and academic achievement. Some research reports (Akpan, 1987; Akinsola & Tijani, 2004; Alele-Williams, 1988; Broody and Dowker, 2006) also suggest that students who come from economically poor families are more likely to forget materials and perform poorly in school than those from more economically stable families. Tella, Adu, Tella & Toyobo (2007) investigated parental education, peer and gender effects on academic achievement of secondary school students in Botswana and found that academic achievement correlated with parental education. The same study revealed that students from parents with high educational qualifications performed better than those from parents with lower educational qualifications. All these imply that socio-economic background is a potent influential factor in factual recall and academic achievement, hence its inclusion as moderating variable in this study.

Statement of the problem

This study investigates the moderating influence of socio-economic background on the relative efficacy of self drills on factual recall and students' achievement in English language in senior secondary school. The major concern is to determine if socio-economic background moderate the efficacy of self-drills in fostering factual recall and achievement in English language.

Hypotheses

HO 1: Self drills training will not significantly improve students' factual recall and achievement in English language.

HO 2: There is no significant difference in the English language achievement of participants in the treatment group and those in the control group.

HO 3: There is no significant effect of socio-economic background on the relative efficacy of self drills on participants' factual recall ability.

HO 4: There is no significant effect of socio-economic background on the relative efficacy of self drills on participants' achievement in English language.

Significance of the Study

The aim is to provide a sound theoretical and empirical basis for all those who are concerned with facilitating the improvement of factual recall and academic achievement among students of diverse socio-economic backgrounds. Therefore, classroom teachers, educational, developmental and counselling psychologists as well as school administrators, parents and students may benefit immensely from the outcomes of this study by adopting the findings in assisting themselves or their clients. Above all, the findings may stimulate further research on the topic and expand the frontier of knowledge.

Methodology

The study adopted an experimental research design using a 2 X 3 pre-test, post-test, randomized factorial design. This design made it possible to establish the relative efficacy of the independent variable (self-drill learning strategy) on the dependent variables (factual recall and academic achievement). It also provided opportunity to study the interaction effect of the moderating variable (socio-economic background). The following table depicts the layout of the 2×3 factorial designs.

Table 1: Layout of the 2×3 factorial Designs

Treatment	Socio-economic Background			
	High	Medium	Low	Total
Treatment group (Self drill)	20	20	20	60
Control group	20	20	20	60
TOTAL	40	40	40	120

The table above shows the 2×3 factorial design used in this study. 2 represent the treatment and control group while 3 represent socio-economic background of participants (High, Medium and Low).

Sample and Sampling Technique

A total of 120 Senior Secondary School Two (SS2) students randomly selected from two senior secondary schools in Ijebu North East Local Government area of Ogun State, Nigeria constituted the sample for the study. The multi-stage random sampling technique was used in selecting the sample. First, the simple random sampling technique in form of balloting was used to select the two schools out of the 9 public senior secondary schools in the local government. In each school, the Socio-economic Background Forms were distributed and filled by SS two students. This enabled the researcher to draw the required number of participants from the three levels of socio-economic background. Finally, the required number of participants was drawn from each of the three levels of socio-economic background using the simple random sampling technique based on the response to the socio-economic background form. Thereafter, they were randomly assigned into the treatment and control groups.

Instrumentation

The instruments used in this study are:-

Socio – economic Demographic Form (SDF)

The Socio-economic demographic form was designed to collect demographic data such as name of school, sex, age and educational level of participants. It also required socio-economic background data such as family type (monogamous or polygamous), family status (intact, broken or separated), parental type (double or single parenting), parents' occupational status, educational qualification and social status in the society, clubs or religious centers.

20 item Word Recall Test (20 – RT)

The “20 item Word Recall Test (20-RT) was developed by the researchers to measure factual recall ability. The instrument has a section for demographic data and another section containing 20 words. Respondents were asked to study the list for two minutes, after which they were instructed to recall the words on the attached plain sheet. The content validity of the 20-RT derived from the fact that all the 20 words contained in the instrument were drawn from various texts used at the senior secondary school level in Nigeria. Besides, they are words that are in everyday use at that level and students are quite familiar with them. Recall ability is the major construct measured by the 20 – RT. Hence, respondents were required to simply reproduce the words as they appear on the original list. The reliability of the 20-RT was established through split half method. The test was administered on a normative sample and 0.76 was obtained as co-efficient of reliability.

English Achievement Tests (ELAT)

The English Language Achievement Test (ELAT) is made up of test items adopted from West African Senior School Certificate Examinations. The questions are usually standardized by the Examination body and they are appropriate to the educational levels of the participants. 0.82 was obtained as co-efficient of reliability for the ELAT from two administrations of two weeks interval.

Procedure

It is observable from table 3 above that socio-economic background did not significantly influence participants' factual recall scores. The calculated F – ratio of .010 was not significant at 0.05 levels.

		Socio-economic Background			
		High	Medium	Low	Total
G		2	0	0	0
E		0	0	0	0
F		.010			
n		0			

The third null hypothesis postulated earlier was therefore accepted. This implies that socio-economic background did not moderate the effect of the treatment on participants' factual recall scores.

Table 5: Descriptive Statistics of Academic Achievement Scores of Participants from High, Medium and Low Socio-economic Background.

Table 4.2

9: Above revealed the means scores of participants from the three levels of socio-economic background High = 56.438a; Medium= 51.591; Low = 52.905a, when the covariate appearing in the model was estimated at 28.6778. To determine if the mean scores were significantly different, further analysis with univariate analysis produced results on table 4.31 below;

		Socio-economic Background		
		High	Medium	Low
Mean		56.438	51.591	52.905
SD		10.5	10.5	10.5
n		0	0	0

Table 6: Univariate Analysis of Difference in Academic Achievement Scores of Participants from High, Medium and Low Socio-economic Background

It is observable from table 6 above that socio-economic background significantly influenced participants' achievement. The calculated F – ratio of 3.402 was significant at $p < 0.05$ levels. The fourth null hypothesis postulated earlier was therefore rejected. This implies that socio-economic background affected the efficacy of self drills on participants' achievement. To determine the direction of the difference, pair wise comparison was carried out. Results are presented in table 7 below.

		Socio-economic Background			
		High	Medium	Low	Total
G		2	2	0	0
E		0	0	0	0
F		3.402			
n		0			

Table 7: Pair wise Comparison of Difference in English Achievement Scores of Participants from High, Medium and Low Socio-economic Backgrounds

Pair wise comparison of mean scores of participants from high and medium socio-economic backgrounds yield (mean difference $I - J = 4.847$; $p < 0.05$), between high and low (mean difference $I - J = 3.533$; $p > 0.05$), between medium and low (mean difference $I - J = 1.313$; $p > 0.05$). Thus, socio-economic

		Socio-economic Background		
		High	Medium	Low
High	Medium	7	0	0
High	Low	3	0	0
Medium	Low	0	0	0
Low	High	3	0	0
Low	Medium	0	0	0
F		3.402		
n		0		

background clearly influenced

participants' academic achievement. Participants from high socio-economic background had higher academic achievement scores than those from low and medium socio-economic backgrounds.

Discussion

The findings of this study revealed that self drills' training is efficacious in fostering factual recall and higher achievement in English language. This result is plausible on the basis of the possibility of memory enhancement which tends to result from continuous repetition of materials often associated with self drills. The findings of this study corroborate previous studies which have indicated the efficacy of drills in fostering memory improvement and academic achievement (Heffner, 2004; CAL, 2004; Ward, 2004). The finding that socio-economic background of participants did not significantly moderate the efficacy of the treatment in fostering factual recall runs contrary to some research reports (Akpan, 1987; Akinsola & Tijani, 2004; Alele-Williams, 1988; Broody and Dowker, 2006) which suggest that students who come from economically poor families are more likely to forget materials. However, the observation of significant moderating influence of socio-economic background on participants' post treatment achievement is supported by the same reports which suggest that students who come from economically poor families are more likely to perform poorly in school than those from more economically stable families.

Conclusion and Recommendations

The findings of this study suggest that self drills is efficacious in fostering factual recall and achievement in English language. Socio-economic background had no moderating influence on factual recall but its moderating effect on achievement was observed. This means that self drills may be used with some variation in enhancing achievement of students from different socio-economic backgrounds. Therefore, it is recommended that students should be encouraged to use self drills in order to enhance their factual recall and achievement in the English language which is one of the core subjects in Nigerian schools. Professional counselors should also be recruited for schools so that they can use their expertise to train students of varying socio-economic backgrounds on how to effectively use self drills. Meanwhile, schools should organize periodic workshops to train students on the use of self drills and other learning strategies so as to facilitate factual recall and enhance achievement in English language.

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