EFFECT OF TOKEN ECONOMY THERAPY ON PUPILS ACHIEVEMENT IN SOCIAL STUDIES IN ADO-ODO/OTA LOCAL GOVERNMENT IN OGUN STATE, NIGERIA

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Abstract
The study examined the effect of token economy therapy on pupils' achievement in social studies in Ado Odo/Ota local government in Ogun state, Nigeria. Two research questions and hypothesis were raised to guide the study. The study adopts true experimental pre-test post-test design. The population of the study comprise of 11247 Primary six pupils in the local government while the sample of the study was 64 Primary six pupils. The instrument that was used for data collection is Social Studies achievement test (SSAT) and was validated by experts from research, measurement and evaluation. Reliability index of the instrument is 0.83 obtained using Kendal tau coefficient. Descriptive statistics of mean and standard deviation was used to answer the research questions while ANOVA was used to test the hypothesis. The result obtained from the study showed that token economy therapy was indeed significantly effective in treating academic achievement among primary school pupils. Based on the findings, the study recommended that teachers, school principals and counsellors should be trained and retrained on how to use token economy to address academic achievement.

Keywords: Token Economy therapy, Pupils, Achievement, Social Studies

Introduction

Student academic achievement is the outcome that indicates the extent to which a student has accomplished a specific goal, which serves as the central focus of activities in an educational environment. Academic achievement is considered a multifaceted construct that comprises different domains of learning because it has a very wide variety of educational outcomes, which current research is only focusing on the cognitive aspect. Therefore, academic achievement depends on the indicator used to measure it and among the many criteria that indicate academic achievement are curricular-based criteria, which can either be grade or performance on an educational achievement test. Whatever the criteria used to measure achievement, they should represent the intellectual capacity of a student.

It is imperative to note that there is need for teacher to involve token economy therapy system in their teacher and learning in order

to assist pupils to enhance their academy achievement. To do this, therefore there is need for full adoption of token economy therapy especially among primary school pupils as it has shown that it has the capacity to increase pupils' academic achievement. Shakespeare et al. (2018),

Token economy therapy can have positive impacts on pupils' academic achievement as it has been reported Afolabi (2020), Eze & Okonkwo (2020), and Umar *et al.* (2023) that token economy can increase pupils' engagement, motivations and understanding which can lead to improve academic achievement. One of the main benefit of token economy therapy after implemented properly is that it can help pupils to understand complex concept and ideas. This can help pupils to better retain the information and apply in a real-world situation.

Token economy systems, also referred to as token reward systems, are a type of intervention strategy that has been utilized since the beginning of the 19th century (Ivy et al., 2017). In brief terms, rewards are given to individuals when they perform a certain behavior, response, or task that is desired by the intervention administrator. These rewards are intended to reinforce that the behavior, response, or task will happen again. In psychology terminology, this type of reinforcement is also known as operant conditioning. Throughout history, reward-based interventions have been used among humans and animals. More specifically, Ivey, Ivey, and Downing (2017) said that token economies have been developed for use in classrooms, psychiatric inpatient programs, community-based rehabilitation group homes, vocational settings, college courses, and sport training. Also, token economies have been found to be effective across the life span, from young children to geriatric adults, and across both typically developing and clinical populations.

In a token reward system, the reward can be given to the participant as a choice prior to beginning the intervention. Choice has been seen as a positive addition to behavior modification. Researchers Frielink, Schuengle, and Embregts (2018) reiterated the effects of choice by describing the physiological need for autonomy support as an imperative human function. They wrote that "the need for autonomy refers to having the feeling one has a sense of choice and volition". Allowing for choice in an intervention gives individuals a sense of power and control over their behavior. In addition, when a person can choose their rewards, it ensures the student is working for something that they truly enjoy. When the reward is of interest or preference, it can make the intervention motivating and more likely to see positive results. Frielink, Schuengle, and Embregts (2018).

To keep token economy systems reinforcing, it is important to vary the rewards frequently and provide immediate feedback. Especially when first implementing this intervention, exchanges of tokens for rewards should be conducted more often to ensure this system works effectively (Doll, McLaughlin, and Barretto (2013). Token economy systems have been widely used and deemed an effective intervention method for classroom teachers. This type of intervention has proven successful among general education and special education populations alike. In addition, this is also a reliable and effective strategy to use for whole-class interventions (Doll, McLaughlin, and Barretto, 2013). Token economy is a behavior modification technique in which tokens are used to treat certain behavior problems. Tokens are generalized conditioned reinforcers. They constitute an indirect way of reinforcing behavior. This is because each desirable behavior emitted is recognized and credited with certain tokens. Such tokens may be points, tickets, or chips; numbers of praises are collated to

purchase a tangible and often valued reward or object, which may be called "backup reinforcements" or prizes. It is often used in the nursery classes, prisons, and at home with young children. In each case, desirable behaviors are awarded points, which are accumulated, while undesirable behavior leads to loss of credit or points. An appropriate reward is given to each worthy winner of tokens. The use of tokens among primary school adolescents will also yield some positive results.

There are two types of reinforcement: positive reinforcement and negative reinforcement. According to Skinner, positive reinforcement has some sort of value; for example, the recipient, food, has the tendency to satisfy an individual who is hungry, and water when the individual is thirsty. A token can also modify behavior; for example, if a parent wants her daughter to wash dishes clean, she may give the daughter some sweets every time she washes the dishes satisfactorily. Given enough time, the young girl will start to wash the dishes clean more often because she knows she will get some sweets. As a result, the girl's behavior (washing dishes) has been modified because she has learned to associate that behavior with a reward. According to Achebe (1998), positive reinforcement is used for increasing those behaviors that the client can perform but that he needs to perform at a high rate or at an increasing frequency. Negative reinforcement has no value for whoever receives it. It may also injure, harm, or cause discomfort in some way. A negative reinforcer causes the recipient to try to escape from the behavior or avoid it.

Statement of the Problem

It has been established by the Local Government Education authority that the Primary six pupils' academic achievement across the nook and crannies of Ado-odo/Ota need urgent attention as they are no more serious with their studies as this is been reflected in their performances. Thought similar observation has been notice in the past but no action taken until when its confirm by the local government education authority. The Local government aspirations for a civil, democratic and prosperous society seems not to have been achieved. The vision of our founding fathers at independence is that Nigeria should have been at competition with countries like China, Malaysia, Singapore, among others. But this aspiration is being threaten by low academic achievement which makes Nigeria not to find its self in the forefront among developed countries. Academic achievement which helps pupils to develop reality, honesty, courage and patriotism which are essential requirements for right type knowledge is no more in place due to low achievement in schools. Many steps have been taken by stake holder in the sector to improve the situation but none has yield a total positive result due to problem like non challan attitude of the facilitators and report of corruption among officials. It was on this note that the researcher decided to tackle the problem by using token economy therapy. Hence the research focus on effect of token economy therapy on pupils' achievement in social studies in Ado-Odo/Ota Local Government Ogun State.

Aim and Objectives of the Study

The specific objectives are to:

1. Examine the pre-test and post-test of social studies achievement means score of pupils in the experimental and control groups
2. Identify the achievement means score of male and female pupils-based gender.

Research Questions

The following are the research question raised to guide the study.

1 What is the pre-test and post-test of social studies achievement means

score of pupils in the experimental and control groups?

2 What are the achievement means score of male and female pupils-based gender?

Hypotheses

The following hypotheses will be formulated for the study, and they will be tested at a 0.05 level of significance:

1 There is no significant difference in the pre-test and post-test achievement mean score of truancy pupils in the experimental and control group.

2 There is no significant difference in the achievement mean scores of male and female truancy behaviour of pupils based on gender.

Methodology

The research design that was adopted for the study was true experimental design of randomization control group pre-test post-test design. The population of the study was 11,247, while the sample was made up of 64 Primary six pupils and their selection was based on their low academic achievement. Purposive sample technique was used to select the school and the sample of the study consisted of 64 pupils from two primary school in Ado Odo/Ota LGA of Ogun State. Oke Ore Methodist primary school with a sample of 32 was used as experimental group while Idi Ota with a sample of 32 was used as control group. The primary school pupils used were identified to be low academic.

The instrument that was used for data collection is a self-design social studies achievement test (SSAT). The content validity of the SSAT were estimated after subjecting the instrument to experts' scrutiny from the unit of guidance and counseling and research measurement and evaluation all of the department of educational foundations faculty of education university of Jos. Reliability index of the instrument is 0.83 obtained using Kendal tau coefficient. Descriptive statistics of mean and standard deviation was used to answer the research questions while ANOVA was used to test the hypothesis at 0.05 level of significance.

Research Question One

Table 1: Result of the Analysis on Achievement Mean Score between the Experimental and Control Groups using Mean and Standard Deviation

Group		N	X	X	Mean Gain	Mean Gain Difference	Post-test Mean difference
Experimental	Pre –test	32	37.72	8.34			
	Post –test	32	42.87	8.34	5.15		
Control	Pre –test	32	37.84	4.94		4.55	4.43
	Post –test	32	38.44	5.85	0.6		

The results of the analysis from Table 1 revealed that the experimented group had pre-test mean score of 37.72, standard deviation of 8.34 and a post-test attendance mean of 42.87, standard deviation of 8.34 with mean gain of 5.15/ while the control group had a pre-test mean score of 37.84, and standard deviation of 4.94 and post a post-test mean score of 38.44 and standard deviation of 5.85 with mean gain of 0.6. Although the mean score of the two groups increased after treatment, the mean gain of the experimental group is higher than that of the control group. This implies that Token economy helps to improve pupils'

achievement in social studies more than conventional method.

Research Question Two

Table 2

Result, of the Analysis on Pupils Achievement based on Males and Females using Mean and Standard Deviation

Group		N	X	SD	Mean Gain	Mean Gain Difference	Post-test Mean Difference
Male	**Pre-test**	17	36.42	3.45			
	Post-test	17	42.13	4.11	5.71	0.14	0.58
Female	**Pre-test**	15	37.14	6.81			
	Post-test	15	42.71	6.44	5.57		

In Table 2 the result of the analysis on the pre-test and post-test achievement mean scores of male and female pupils is presented. The result indicates that male had a pre-test mean score of 36.42 and standard deviation of 3.45 and a post-test mean score of 42.13 and standard deviation of 4.11 with mean gain of 5.71 while the female students had a pre-test mean score of 37.14 and standard deviation of 6.81 and a post-test mean score of 42.71 and standard deviation of 6.44 with mean gain of 5.57 the result showed an increase in the achievement mean scores of male and female pupils after exposure to treatment. The result further showed a mean difference between male and females of 0.58 in favor of males this implies that token economy helps to improve male student achievement in social studies more than female students

Hypothesis One

Table 3: Summary of ANOVA Analysis on achievement mean score of pupils in the experimented and control group.

	Sum of Squares	Df	Mean Square	F	P-value	Decision
Between Groups	11390.008	3	3796.669	53.999	.000	**Significant**
Within Groups	8718.460	124	70.310			
Total	20108.469	127				

Table 3 reveals the ANOVA result of the pre-test and post -test achievement mean score of pupils in the experimental and control groups. The result yielded $F(124) = 53.99$, $P < 0.05$. Since the P-value of 0.000 is less than the 0.05 level of significance, the null hypothesis was rejected. Indicating that there is a significant difference between the pre-test and post-test achievement mean score of pupils in the experimental and control groups. It shows that token economy helps improve the achievement of primary pupils more than conventional method. This implies that there is a significant difference in the pre-test and post-test achievement mean score of pupils in the experimented and control groups.

Table 4: Scheffe Post Hoc Result on Achievement Mean score of pupils in the Experimental and Control Groups 2

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.
Pre-test experimental	Pre-test control	8.219*	2.096	.002
	Post-test experimental	-17.437*	2.065	.000
	Post-test control	-3.204	2.131	.522
Pre-test control	Pre-test experimental	-8.219*	2.096	.002
	Post-test experimental	-25.656*	2.065	.000
	Post-test control	-11.423*	2.131	.000
Post-test experimental	Pre-test experimental	17.438*	2.065	.000
	Pre-test control	25.656*	2.065	.000
	Post-test control	14.233*	2.100	.000
Post-test control	Pre-test experimental	3.204	2.131	.522
	Pre-test control	11.423*	2.131	.000
	Post-test experimental	-14.233*	2.100	.000

Table 4 presents the post hoc result on the differences in the pre-test and post -test achievement mean score of pupils in the experimental and control groups. The result indicated that significant difference lies between the pre-test and post-test achievement mean score of the experimental group, pre-test mean score of the control group and post-test mean score Hypothesis Two of the experimental group, post-test mean score of the control group and post-test mean scores of the experimental group, pre-test achievement means scores of the experimental and control groups ($P<0.05$). It further indicates no significant difference between pre-test mean score of experimental group and pre-test mean scores of the control group($P>0.05$).

Table 5: Summary of ANOVA Analysis on Post-test Achievement Mean Score Male and Female Pupils in the Experimental Group

	Sum of Squares	Df	Mean Square	F	P-value	Decision
Between Groups	5436.303	3	1812.101	6.819	.075	Insignificant
Within Groups	2182.431	60	36.374			
Total	7618.734	63				

Table 5 reveals the ANOVA result of the pre-test and post-test achievement mean score of male and female truant pupils in the experimented group. The result yielded $F(3, 60) = 6.82$, $P > 0.05$. Since the P-value of 0.075 is greater than the 0.05 level of significance, the null hypothesis was retained. It indicated that there is no significant difference between the pre-test and post-test truant behaviour mean score of male and female pupils in the experimental group. It shows that token economy helps improve the achievement mean score of male and female primary

pupils. This implies that there is no significant difference in the pre-test and post-test achievement mean score of male and female pupils in the experimented group.

Discussion of Findings

Based on the findings of this study, the following conclusion were reached and that is token economy therapy is aimed at addressing pupils' achievement in a modern time like nowadays and therefore the study conclude that token economy therapy can be used to improved pupils' achievement in Ado-Odo local government area of Ogun state

Afolabi & Adeyemi (2021) and Umar *et al*. (2023)**,** reported that behavioral interventions like Token Economy Therapy have broad motivational benefits that transcend gender lines. Similarly, Bandura's (1977) Social Learning Theory posits that reinforcement-based learning mechanisms are universal and not constrained by gender identity. However, it slightly contrasts with findings by Eze & Okonkwo (2020)**,** who observed higher responsiveness among female pupils in classroom behavioral interventions. The difference may be due to contextual factors such as cultural expectations, learning environment, or the nature of the rewards used in the token economy program.

Ogunleye and Alabi (2022)**,** who reported that token reinforcement significantly enhanced pupils' academic achievement and classroom engagement**. S**imilarly, Okon and Nwagu (2021) found that Token Economy Therapy led to measurable improvements in both motivation and test performance among primary school pupils**,** particularly w2hen rewards were immediate and clearly defined. In addition, Kazdin (2013) and Afolabi (2020) emphasized that the systematic use of reinforcement in educational settings promotes sustained behavioural and cognitive improvement, as it aligns students' learning motivation with tangible rewards.

Conclusion

From the result of the study, it was concluded token economy therapy was effective in enhancing pupils' achievement. Therefore, teachers, counsellors and others in educational sector should adopt the study as it was found effective in enhancing token academic achievement.

Recommendations

It was recommended that;

1. Teachers, counsellors and other stakeholders in the educational sector should be exposed to the training on token economy therapy as it was found to have an effect on pupils' achievement.
2. Government should support by providing necessary assistance towards realizing implementation of token economy therapy in improving pupils' achievement.
3. There should be establishment of counselling center in all primary schools.

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