

Effect of Token Economy Technique on Truancy Behaviour among Upper Basic Education Students in Ringim Education Zone, Jigawa State

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ABSTRACT

This study examined the effect of token economy technique on truancy behaviour among Upper Basic Education students in the Ringim Education Zone of Jigawa State, Nigeria. Anchored on Skinner's Operant Conditioning Theory and Bandura's Social Learning Theory, the study adopted a quasi-experimental pretest-posttest control group design involving eighty (80) students purposively drawn from two Junior Secondary Schools: JSS Gilima (Experimental group, $n = 40$) and JSS Kiri (Control group, $n = 40$), evenly distributed by gender. Baseline truancy was established using the Class Attendance Register, while the Truancy Behaviour Questionnaire, a nineteen-item instrument found reliable through a pilot study (Cronbach's $\alpha = 0.82$), measured truancy at pretest and posttest. The Experimental group received a ten-week, twenty-session token economy intervention, while the Control group received none. Data were analysed using Analysis of Covariance at the .05 level of significance. Results showed comparable baseline truancy across groups (59.57% and 58.14%), a statistically significant reduction in truancy behaviour attributable to the intervention, $F(1, 77) = 43.24$, $p < .001$, partial $\eta^2 = .360$, and no significant differential effect by gender, $F(1, 75) = 0.01$, $p = .946$. The study concludes that the token economy technique is an effective and gender-neutral strategy for reducing truancy and recommends its adoption in routine school attendance management.

Keywords: token economy, truancy behaviour, Upper Basic Education, operant conditioning, behavioural intervention

INTRODUCTION

School attendance constitutes a foundational condition for academic achievement, yet truancy, defined as the unauthorized and often concealed absence of a student from school, continues to present a persistent challenge to educational systems across Nigeria (Oghuvbu, 2010). Truancy remains a widespread concern among Upper Basic Education students within the Ringim Education Zone of Jigawa State, as reflected in persistently high absenteeism recorded in school attendance registers, undermining both individual academic progress and the broader access and completion objectives of Universal Basic Education. Where students are habitually absent without authorisation,

the cumulative loss of instructional time compromises curriculum coverage, weakens continuity of learning, and, over time, elevates the risk of academic failure and eventual school dropout.

Behavioural psychology offers a well-established framework for understanding and addressing such patterns of maladaptive behaviour. Skinner's (1953) theory of operant conditioning holds that behaviour is shaped and maintained by its consequences, such that behaviour followed by reinforcement tends to increase in frequency, while Bandura's (1977) social learning theory further proposes that behaviour may be acquired and sustained

vicariously through the observation of others being reinforced. Applied to the school setting, these principles suggest that truant behaviour, having been learned and sustained through existing environmental contingencies, may similarly be modified through the deliberate and systematic application of positive reinforcement. The token economy technique, in which desirable behaviour is immediately reinforced with tokens later exchangeable for tangible or social rewards, represents a direct practical application of this reasoning and has been employed with documented success in a range of educational and clinical settings (Kazdin, 2013).

Despite the theoretical plausibility and prior application of the token economy technique elsewhere, empirical evidence regarding its effectiveness in reducing truancy behaviour within Nigerian Upper Basic Education settings, and specifically within the Ringim Education Zone, remains limited. This study was therefore designed to address this gap by empirically evaluating the effect of the token economy technique on truancy behaviour among Upper Basic Education students in the zone, and by further examining whether any resulting improvement in attendance held consistently across male and female students.

Statement of the Problem

Truancy among Upper Basic Education students in the Ringim Education Zone of Jigawa State persists as a recurrent disciplinary concern with demonstrable academic consequences, yet interventions applied within the zone have tended to rely on punitive or administrative measures, such as query letters and parental invitations, rather than on structured behavioural strategies grounded in established psychological theory. Empirical evidence regarding the effectiveness of behaviourally-based interventions within this specific

context remains scarce, leaving school administrators and counsellors to address truancy largely without a locally validated, evidence-based intervention framework. This study responds to that gap by determining whether the token economy technique, a reinforcement-based behavioural technique, can produce a measurable and statistically significant reduction in truancy behaviour among Upper Basic Education students in the Ringim Education Zone, and whether any resulting reduction applies consistently to both male and female students.

Objectives of the Study

The study was guided by the following objectives:

1. To determine the baseline level of truancy behaviour among Upper Basic Education students in the Ringim Education Zone.
2. To determine the effect of the token economy technique on truancy behaviour among the students in the Ringim Education Zone.
3. To determine whether the token economy technique produced a differential effect on truancy behaviour between male and female students.

Research Questions

The following research questions were raised:

1. What is the baseline level of truancy behaviour among Upper Basic Education students in the Ringim Education Zone?
2. What is the effect of the token economy technique on truancy behaviour among Upper Basic Education students in the Ringim Education Zone?
3. What is the differential effect of the token economy technique on truancy

behaviour between male and female
Upper Basic Education students?

each evenly split between male and female
students.

Hypotheses

The following null hypotheses were tested at the .05 level of significance:

HO1: There is no statistically significant effect of the token economy technique on truancy behaviour among Upper Basic Education students.

HO2: There is no statistically significant differential effect of the token economy technique on truancy behaviour between male and female Upper Basic Education students.

METHODOLOGY

The study adopted a quasi-experimental pretest-posttest control group design. This design was considered appropriate given the use of intact school classes rather than fully randomised individual assignment.

The population of the study comprised all public Upper Basic Education students (JSS I–III) in the Ringim Education Zone, totaling 10,768 students, made up of 4,864 males and 5,904 females, drawn across twenty (20) Upper Basic Education schools in the zone. From this population, a purposive sample of eighty (80) students was drawn from two Junior Secondary Schools, with JSS Gilima constituted as the Experimental group ($n = 40$) and JSS Kiri constituted as the Control group ($n = 40$),

Two instruments were used for data collection: the Class Attendance Register (CAR) and the Truancy Behaviour Questionnaire (TBQ). The CAR was used to establish each participant's pre-intervention truancy rate, computed as the proportion of unauthorised absences to total scheduled instructional days. The TBQ, comprising nineteen (19) items scored on a four-point scale, was administered at pretest and posttest to measure truancy behaviour directly; its reliability was established through a pilot study using the internal consistency method, which yielded a Cronbach's alpha coefficient of 0.82. Students in the Experimental group underwent a ten-week, twenty-session token economy intervention in which attendance-related behaviours were systematically reinforced with tokens exchangeable for tangible and social rewards, while the Control group received no intervention during the same period. Data were analysed using descriptive statistics and Analysis of Covariance, with pretest scores serving as covariate, at the .05 level of significance.

RESULTS

Research Question One: What is the baseline level of truancy behaviour among Upper Basic Education students in the Ringim Education Zone?

Table 1 Truancy rate of the Experimental and Control groups, as measured by the Class Attendance Register.

Table 1: Pre-Intervention Truancy Rate by Group

Group	N	Mean (%)	SD
Experimental	40	59.57	16.82
Control	40	58.14	17.77

Note. Source: Class Attendance Register.

As shown in Table 1, the Experimental and Control groups recorded comparable pre-intervention truancy rates, indicating baseline equivalence between the two groups prior to the commencement of the intervention.

HO1 states that there is no statistically significant effect of the token economy

technique on truancy behaviour among Upper Basic Education students. Table 2 presents the summary of the Analysis of Covariance conducted to test this hypothesis, using posttest Truancy Behaviour Questionnaire scores as the dependent variable, pretest scores as covariate, and group as the fixed factor.

Table 2: ANCOVA Summary for Effect of Group on Posttest Truancy Behaviour

Source	SS	Df	MS	F	p
Group	4946.38	1	4946.38	43.24	<.001*
Error	8808.61	77	114.40		

Note. * $p < .05$. Partial $\eta^2 = .360$. Adjusted means: Experimental = 40.32; Control = 56.06.

As shown in Table 2, the effect of group on posttest truancy behaviour was statistically significant, $F(1, 77) = 43.24$, $p < .001$, partial $\eta^2 = .360$. The null hypothesis (HO1) was therefore rejected, indicating that the token economy technique produced a significant reduction in truancy behaviour among students in the Experimental group relative to the Control group.

HO2 states that there is no statistically significant differential effect of the token economy technique on truancy behaviour between male and female Upper Basic Education students. Table 3 presents the summary of the Analysis of Covariance conducted to test this hypothesis, incorporating gender alongside group as a factor.

Table 3: ANCOVA Summary for Effect of Group and Gender on Posttest Truancy Behaviour

Source	SS	Df	MS	F	p
Group	4816.20	1	4816.20	42.11	<.001*
Gender	1.14	1	1.14	0.01	.946
Error	8577.68	75	114.37		

Note. * $p < .05$. Partial η^2 (Group) = .360; Partial η^2 (Gender) = .000.

As shown in Table 3, the effect of gender on posttest truancy behaviour was not statistically significant, $F(1, 75) = 0.01$, $p =$

.946, while the effect of group remained significant. The null hypothesis (HO2) was therefore retained, indicating that the token

economy technique benefited male and female students to a similar extent.

DISCUSSION

The significantly greater reduction in truancy behaviour recorded among students in the Experimental group, relative to those in the Control group, lends empirical support to the theoretical propositions underpinning this study. In line with Skinner's (1953) account of operant conditioning, the systematic pairing of improved attendance with token reinforcement appears to have strengthened the desired behaviour among Experimental group students. Bandura's (1977) social learning theory offers a complementary explanation, suggesting that students may additionally have learned through observing peers being reinforced for consistent attendance. This finding corresponds closely with that of Sulaiman and Uhuegbu (2021), who, working with secondary school truants in Lagos State using a comparable design and instrument, likewise found the token economy technique effective in reducing truancy, reporting a larger effect for the technique than for an alternative cognitive-restructuring approach.

The absence of a significant gender effect, once group membership had been accounted for, suggests that the token economy technique conferred a broadly equivalent benefit on male and female students. This result is consistent with that of Sulaiman and Uhuegbu (2021), who similarly found that sex exerted no significant influence on truancy reduction following a token economy intervention, and it aligns with the broader pattern reported by Sosu (2021), whose systematic review found that gender did not consistently moderate the relationship between background factors and school absenteeism. Taken together, these findings suggest that behavioural interventions of this kind may be

implemented using a uniform reinforcement schedule across mixed-gender classrooms without disadvantaging either group of students.

CONCLUSION

This study set out to determine the effect of the token economy technique on truancy behaviour among Upper Basic Education students in the Ringim Education Zone of Jigawa State, and whether any such effect held consistently across gender. The findings provide clear empirical support for the effectiveness of the technique: students exposed to the intervention recorded a substantially and statistically significantly lower level of truancy behaviour than those who were not, even after their baseline scores had been statistically controlled. This outcome affirms the practical relevance of reinforcement-based behavioural principles, long established within the psychological literature, to a persistent and practically consequential disciplinary problem within the Nigerian secondary school system.

The study further establishes that this benefit was not confined to one sex, as no statistically significant difference emerged between male and female students in the extent to which they responded to the intervention. This finding carries a meaningful implication for practice: it indicates that the token economy technique can be adopted as a single, general-purpose attendance-management strategy applicable across mixed-gender school populations, without the added administrative burden of designing separate, sex-specific reinforcement schedules.

On the whole, the study contributes context-specific empirical evidence, hitherto limited, on the applicability of the token economy technique within the Ringim Education Zone, and offers school administrators, guidance counsellors and education

policymakers within the zone a validated, low-cost, and readily implementable behavioural strategy for addressing truancy among Upper Basic Education students.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made:

1. School administrators within the Ringim Education Zone should formally adopt structured token economy programmes as a routine component of school attendance management, given the demonstrated capacity of the technique to significantly reduce truancy behaviour.
2. Teachers and guidance counsellors intending to implement token economy programmes should receive adequate training in the consistent, fair, and transparent administration of token reinforcement, since the effectiveness of the technique depends substantially on the fidelity with which it is applied.
3. Given that no significant differential effect by gender was found, schools should implement token economy programmes using a single, uniform reinforcement structure for both male and female students, rather than developing separate gender-specific schedules, thereby simplifying administration without any evident loss of effectiveness.
4. Ministries of Education and other relevant policymaking bodies should consider incorporating structured behavioural interventions of this kind into broader school attendance policy, supported by modest and sustainable resource allocation for reinforcement materials.

5. Schools should continue to monitor student attendance patterns beyond the conclusion of any token economy programme, in order to determine whether the behavioural improvements recorded immediately following the intervention are sustained over a longer period.
6. Further research should be undertaken across a larger number of schools and educational zones, and over an extended intervention and follow-up period, in order to establish the generalisability and durability of the present findings.

REFERENCE

- Bandura, A. (1977). Social learning theory. Prentice-Hall.
- Kazdin, A. E. (2013). Behavior modification in applied settings (7th Ed.). Waveland Press.
- Oghuvbu, E. P. (2010). Attendance and academic performance of students in secondary schools: A correlational approach. *Studies on Home and Community Science*, 4(1), 21–25.
- Skinner, B. F. (1953). Science and human behavior. Macmillan.
- Sosu, E. M. (2021). Socioeconomic status and school absenteeism: A systematic review and narrative synthesis. *Review of Education*, 9(3), e3291. <https://doi.org/10.1002/rev3.3291>
- Sulaiman, A., & Uhuegbu, S. I. (2021). Impact of cognitive restructuring and token economy techniques on truancy reduction among secondary school students in Lagos State, Nigeria. *Islamic Guidance and Counseling Journal*, 4(1), 21–32.