

Immediacy and Contingency as Predictors of Active Class Participation among Public Primary School Pupils in Rivers West Senatorial District

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DOI: <https://doi.org/10.47772/IJRISS.2026.100700589>

Received: 27 July 2026; Accepted: 01 August 2026; Published: 08 August 2026

Abstract

This study investigated immediacy and contingency, as predictors of active class participation among public primary school pupils in Rivers West Senatorial District, Rivers State, Nigeria. The study was anchored on B. F. Skinner's Operant Conditioning Theory, which posits that behaviour is strengthened when desirable consequences follow appropriate responses. A correlational research design was adopted. The population comprised 4,702 teachers in public primary schools across the eight Local Government Areas of Rivers West Senatorial District. A sample of 369 teachers was determined using Taro Yamane's (1967) formula for finite population. Data were collected using the Teachers' Reinforcement Questionnaire (TRQ) and the Classroom Participation Questionnaire (CPQ), which were validated by experts in Educational Psychology and Measurement and Evaluation. The reliability of both instruments was established using Cronbach's Alpha which yielded 0.70 for Teachers' Reinforcement Questionnaire (TRQ) and 0.70 for Classroom Participation Questionnaire (CPQ). The simple regression was used to answer the research questions, while the Regression related to ANOVA was used to test the hypotheses at 0.05 level of significance. The findings revealed that immediacy had a significant positive relationship with pupils' active class participation. Similarly, contingency showed a significant positive relationship with active class participation. The study concluded that timely and behaviour-dependent reinforcement enhances pupils' motivation, confidence, and willingness to participate actively in classroom activities. The study recommended that teachers should provide immediate feedback and ensure that reinforcement is consistently contingent upon desirable classroom behaviour to improve learner engagement and educational outcomes. The findings contribute to the achievement of Sustainable Development Goal 4 by promoting effective teaching practices that foster inclusive and quality education.

Keywords: active class participation, contingency, immediacy, public primary schools, reinforcement, rivers west senatorial district

INTRODUCTION

"Education is the backbone of a nation's development but effective education can only occur when the learners gain the right knowledge, attitude, skills and values necessary for self and national development. At the primary school level, education is the first formal level of education through which children acquire the basic skills of reading, writing and numeracy and develop vital communication skills as well as social behavior. The outcome of primary education is largely depends on how much of activities learners involve themselves in the classroom environment. Children who participate in classroom activities like asking questions and answering the teachers' questions, discussing ideas, working with fellow students and participating in learning process are better learners; they are more successful with raising their understanding, broadening their thinking, building their confidence, improving their writing, debating skills and educational performance (Slavin,2020).

As much as classroom participation is emphasized in our educational endeavour, many public primary schools in Rivers West Senatorial District still witness inadequate classroom participation in terms of pupils' involvement. Many pupils remain passive listeners, avoid responding to teachers' questions, and rarely contribute

to classroom discussions. Such passive learning reduces the effectiveness of classroom instruction and limits opportunities for meaningful learning. Consequently, educators have continued to search for instructional strategies capable of motivating pupils to become active participants in classroom learning (Nwafor, 2020).

One effective strategy identified in educational psychology is reinforcement. Reinforcement refers to the deliberate use of positive consequences by teachers to strengthen desirable behaviours and encourage their repetition. Within classroom settings, reinforcement includes praise, recognition, encouragement, rewards, constructive feedback, and other motivational strategies used to increase desirable learner behaviours. Among the various dimensions of reinforcement, immediacy and contingency have received considerable attention because they directly influence pupils' willingness to participate in classroom activities (Ofogebu, 2021)

Immediacy refers to the promptness with which teachers provide reinforcement immediately after a desirable behaviour occurs. It includes giving immediate praise, prompt corrective feedback, smiling, maintaining eye contact, calling pupils by name, and acknowledging learners' efforts without unnecessary delay. Immediate reinforcement helps pupils associate their behaviour with positive consequences, thereby strengthening the likelihood that such behaviour will occur again. In primary school classrooms, where learners depend greatly on external motivation, immediacy serves as a powerful instructional strategy that enhances participation, builds confidence, reduces anxiety, and promotes continuous classroom engagement (Mehrbian, 1971).

Contingency, on the other hand, refers to the direct relationship between a desired behaviour and the reinforcement that follows it. Contingent reinforcement is used to give reinforcement only when pupils exhibit the appropriate classroom behaviour. During classroom instruction, contingent reinforcement will clarify to pupils that the stimulus such as praise or attention is contingent upon their actual participation and the stimulus will no longer be random. The contingency between responding and the stimulus will be clear and pupils will come to know what is expected of them in future classroom activities. The contingent reinforcement may establish a sound discipline, good classroom management and greater accountability of pupils as they will learn to have a passage for their appropriate behaviours with their known expectation of receiving positive consequences (Emmer & Sabornie, 2021).

Research shows that active in-class participation has a major significance when it comes to raising standards as participation of pupils in class discussions reflects a higher level of understanding, better absorption of material, enhance communication skills and fosters higher-order thinking skills. through active participation, teachers can also observe their students' comprehension and deliver correct instruction as soon as their weaknesses are evident. Classroom interactions via active participation can also result to good relationships in classroom and motivation of learners, in addition to establishing an inclusive classroom where every learner is respected and appreciated (Frymier and Houser, 2000).

The 3 researches above all verify the relationship of reinforcement and classroom participation with empirical data. According to the Frymier (1994), teacher immediacy had a great impact on the learners to cooperate in the classroom discussion; Christophel(1990) also found that immediacy was the key to motivate the learners' willingness and improve their involvements in class; Frymier and Houser (2000) all drew to the result that teacher immediacy established a good teacher-student relationship, which further improved classroom participation. Locally, Ibe (2019) reported that teacher immediacy significantly increased pupils' willingness to answer classroom questions in Nigerian primary schools. Emeka and Okorie (2021) further established that immediacy positively influenced classroom interaction among primary school pupils in Rivers State. Similarly, Wentzel (2019) found that contingent reinforcement enhanced pupils' motivation and classroom discipline, while Slavin (2020) concluded that reinforcement directly linked to desired behaviour significantly increased classroom participation and academic engagement.

This study is anchored on Operant Conditioning Theory developed by Burrhus Frederic Skinner (1938). The theory explains that behaviour is influenced by the consequences that immediately follow it. If the behaviour is followed by a reinforcer, Skinnners contends it will increase in frequency. Behaviours not reinforced would tend to decrease in frequency.

It is the views of the theory that reinforcement is the key to developing and maintaining a good behaviour. Through the use of praise, acknowledgment, support, rewards and approval, it increases the tendency of learners repeating suitable behaviour in the classroom.

Operant Conditioning Theory during classroom teaching helps to understand why pupils become more engaged when teachers give them positive and contingent reinforcement. Pupils produce desired responses more when teachers immediately give reinforcement such as acknowledging their contributions after they answered a question.

The theory seems especially appropriate to this study since both the principles of immediacy and contingency are regarded as fundamental aspects of effective reinforcement. One emphasizes immediacy while the other emphasizes contingency. In combination, these principles help to clarify the ways in which reinforcement can maintain active participation of public primary school pupils in classroom activities.

Hence, Operant Conditioning Theory forms the most appropriate theoretical framework that explains the relationship between immediacy, contingency and active participation of learners in the public primary schools of Rivers west senatorial district.

In addition to the ideology of the study stems from the guiding principle of Sustainable Development Goal 4 (SDG 4) which is committed to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. (SDG 4) learner-centred learning, effective classroom practices and conducive learning conditions that foster full and meaningful pupil participation. Through the identification of the most effective reinforcement techniques for teaching effectiveness (immediacy and contingency) the present study aims at providing the yardstick for the teacher and learner till the realization of the promised quality primary education in rivers West Senatorial District.

Statement of the Problem

Active class participation continues to be a serious problem in many public primary schools in Rivers West Senatorial District which greatly affects pupil's learning. It is observed from class room visits that many pupils rarely take part in class activities, refuse to respond to questions, give minimum responses in a class discussion and are generally passive during instruction. This affects classroom teaching and limit pupils academic growth through significant enhancement of quality of education.

Despite, positive reinforcement as an effective means of increasing classroom participation; a number of teachers do not attend to reinforcing schemas directly following appropriate behaviour and do not consistently apply reinforcement contingently. Timing problems, inconsistency and lack of reinforcement cued to pupils' behaviour, may result in decreased motivation and a lack of positive engagement with classroom learning.

Thus far, there's only slight empirical data on the particular interactions or relationships that exist between the variables of immediacy and contingency on the active class participation of public primary school pupils in Rivers West S. A. District. Consequently, this prompted the study in hand.

Purpose of the Study

The primary aim of this study was to investigate the effect of immediacy, contingency and active class participation on the academic achievement of public primary school pupils in Rivers West Senatorial District. These are to;

1. determine the extent to which immediacy predict active class participation among public primary school pupils in Rivers West Senatorial District.
2. examine the extent to which contingency predict active class participation among public primary school pupils in Rivers West Senatorial District.

Research questions

The following research questions guided the study:

1. What is the extent to which immediacy predict active class participation among public primary school pupils in Rivers West Senatorial District?
2. What is the extent to which contingency predict active class participation among public primary school pupils in Rivers West Senatorial District?

Hypotheses

The following null hypotheses were tested at the 0.05 level of significance:

1. Immediacy does not significantly predict active class participation among public primary school pupils in Rivers West Senatorial District.
2. Contingency does not significantly predict active class participation among public primary school pupils in Rivers West Senatorial District.

METHODOLOGY

The study adopted a correlational research design. The design was considered appropriate because it enabled the researcher to determine the relationship between the independent variables (immediacy and contingency) and the dependent variable (active class participation) without manipulating any of the variables. The design also allowed the researcher to establish the degree and direction of the relationship among the variables.

The study was carried out in Rivers West Senatorial District, Rivers State, Nigeria. The district comprises eight Local Government Areas: Ahoada East, Ahoada West, Abua/Odual, Akuku-Toru, Asari-Toru, Degema, Bonny and Ogba/Egbema/Ndoni. The area has several public primary schools where teachers employ different reinforcement strategies during classroom instruction. The population comprised 4,702 teachers in all public primary schools in Rivers West Senatorial District. A sample of 369 teachers for this study was determined using Taro Yamane's (1967) formula for finite population. A stratified random sampling technique was used to ensure fair representation across the eight LGAs. Each LGA formed a stratum, and respondents were proportionally selected from each stratum based on the number of teaching staff.

Two researcher-developed instruments were used: Teachers' Reinforcement Questionnaire (TRQ) and Classroom Participation Questionnaire (CPQ).

The TRQ measured teachers' use of immediacy and contingency reinforcement strategies, while the CPQ measured pupils' active classroom participation.

Responses were structured on a four-point Likert scale ranging from Strongly Disagree (1) to

Strongly agree (4). The instruments for data collection (TRQ and CPQ) were given to three experts: one in Educational Psychology and two experts in Measurement and Evaluation all in the Faculty of Education, Rivers State University, Port Harcourt to assess its face and content validity. Their observations and recommendations were incorporated before the final administration of the instruments. The Teachers Reinforcement Questionnaire (TRQ) yielded reliability coefficient of 0.70 for immediacy and 0.70 for contingency and an index of 0.70 for Classroom Participation Questionnaire (CPQ) with an overall reliability index of 0.70. This indicates that the instrument is reliable and suitable for data collection.

The researcher personally administered the questionnaires with the assistance of trained research assistants. The completed questionnaires were retrieved immediately after completion to ensure a high return rate.

Simple regression was used to answer the research questions while the Regression related to ANOVA was used to test the hypotheses at 0.05 level of significance.

Result

Results will be presented on a relevant table to answer research questions and test hypotheses

Research Question 1: What is the extent to which immediacy predict active class participation among public primary school pupils in Rivers West Senatorial District?

Hypothesis 1: Immediacy does not significantly predict active class participation among public primary school pupils in Rivers West Senatorial District.

Table 1: Model Summary for Immediacy of Reinforcement

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	0.684	0.468	0.466	0.521

The result in Table 1 answers research question 1, it shows that the correlation coefficient ($R = 0.684$) indicates a strong positive relationship between immediacy of reinforcement and pupils' active class participation. The coefficient of determination ($R^2 = 0.468$) implies that 46.8% of the variation observed in pupils' active class participation is explained by immediacy of reinforcement, while the remaining 53.2% could be attributed to other factors outside the scope of this study. The adjusted R^2 value of 0.466 further confirms that the model provides a reliable explanation of the relationship between the variables.

Table 2: Coefficients of Immediacy of Reinforcement

Model	Unstandardized B	Std. Error	Beta	t-value	Sig.
Constant	1.124	0.231	-	4.866	.000
Immediacy of Reinforcement	0.658	0.124	0.684	5.326	.000

Table 2 tested hypothesis 2. The result shows that immediacy of reinforcement has a positive regression coefficient ($B = 0.658$), indicating that an increase in prompt feedback, immediate praise and timely correction is associated with a corresponding increase in pupils' active participation in classroom activities. The significance value of 0.000 shows that the relationship between the variables is statistically meaningful. Therefore, teachers who provide immediate reinforcement tend to encourage pupils to participate actively, respond to questions, contribute ideas and remain engaged throughout classroom instruction.

The coefficient table indicates that immediacy of reinforcement contributes positively to pupils' active class participation.

Research Question 2: What is the extent to which contingency predict active class participation among public primary school pupils in Rivers West Senatorial District?

Hypothesis 2: Contingency does not significantly predict active class participation among public primary school pupils in Rivers West Senatorial District.

Table 3: Model Summary for Contingency of Reinforcement

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	0.621	0.386	0.384	0.552

The model summary in Table 3 showed that contingency of reinforcement has a positive relationship with pupils' active class participation, as indicated by the correlation coefficient ($R = 0.621$). The coefficient of determination ($R^2 = 0.386$) revealed that contingency of reinforcement explains 38.6% of the variation in pupils' participation, whereas 61.4% of the variation may be due to other factors beyond the scope of the present study. The adjusted R^2 value of 0.384 supports the adequacy of the regression model.

Table 4: Coefficients of Contingency of Reinforcement

Model	Unstandardized B	Std. Error	Beta	t-value	Sig.
Constant	1.132	0.237	-	4.776	.000
Contingency of Reinforcement	0.596	0.120	0.621	4.950	.000

Table 4 tested hypothesis 2, it showed a positive regression coefficient ($B = 0.596$), indicating that pupils' active participation increases whenever reinforcement is directly linked to their performance and classroom behaviour. This finding suggests that pupils are more willing to contribute meaningfully during lessons when they know that rewards and recognition are based on actual effort, performance and achievement. Consequently, contingency of reinforcement serves as a motivating factor that encourages desirable classroom behaviours. The findings reveal that contingency of reinforcement significantly and positively influence pupils' classroom participation.”

DISCUSSION OF FINDINGS

Immediacy of Reinforcement and Pupils' Active Class Participation

The first findings of this study answered research question 1 and tested hypothesis 1, it revealed that immediacy of reinforcement has a significant positive influence on pupils' active class participation in public primary schools in Rivers West Senatorial District. The regression analysis showed a strong positive relationship between immediacy of reinforcement and active class participation ($R = 0.684$), while the coefficient of determination ($R^2 = 0.468$) indicated that immediacy accounted for 46.8% of the variation in pupils' active participation. The regression coefficient ($B = 0.658$, $p < 0.05$) further demonstrated that an increase in prompt reinforcement resulted in a corresponding increase in pupils' participation during classroom instruction. These findings suggest that pupils are more willing to answer questions, contribute to discussions, express their ideas, and remain attentive when teachers provide immediate praise, prompt feedback, and timely correction after desirable classroom behaviours.

This finding is consistent with the assumption of Skinner's Operant Conditioning Theory that behaviours which are strengthened by immediate reinforcing consequences tend to be repeated. The association between the behaviour and the reinforcing consequence becomes strengthened when the reinforcement is provided immediately after the behaviour, resulting in a greater likelihood that the behaviour will be repeated. As such, immediate reinforcement can motivate primary school pupils who are heavily reliant on external feedback to modulate their learning behaviours to continue with in-classroom participation.

This finding coincides with existing empirical research. It is supported by the Baringer and McCroskey (2000) whose immediacy practices remarkably promoted learner participation and classroom interaction. It further supports Sun's (2023) extant teaching researches who observed positive relationship between teacher immediacy and learners' academic engagement and their willingness to communicate. Liu (2021)'s research also supported this finding as he found verbal and non-verbal teacher immediately successfully facilitated students' motivation and classroom participation whereas Zhang, et al (2024) pointed out teacher immediately significantly forecasted students' academic engagement via teacher-learner rapport improvement.

Perhaps the reason behind the significant effect of immediacy observed in this study can be explained from the developmental perspective of primary school pupils who perform better when given instant recognition and

encouragement. Immediate reinforcements tend to lessen anxiety, boost the self-confidence of learners, foster positive teacher-learner relationship, create a conducive classroom environment, and facilitate learner participation. In the setting of public primary schools in Rivers West Senatorial District where instructional aids are scarce, instant verbal praise and feedback serve as economical methods of encouraging learner participation.

Contingency of Reinforcement and Pupils' Active Class Participation

The second result of this research fulfilled research question 2 and examined hypothesis 2; it indicated that contingency of reinforcement has a significant and positive effect on the active participation of pupils in public primary Schools in the Rivers West Senatorial District. The regression analysis obtained positive value $R=0.621$ while the coefficient of determination $R^2 = 0.386$, showed that contingency of reinforcement accounted for 38.6% of the variation in pupils active participation in their instruction. The positive value of the regression coefficient $B= 0.596$, $P< 0.05$ showed that pupils increased their active participation whenever reinforcement was directly contingent on their classroom achievement and appropriate classroom behaviour. This signifies that pupils participate more actively in the classroom situations when they realize that praise, recognition and rewards are directly associated with their appropriate classroom behaviour.

This finding is in line with Skinner's Operant Conditioning Theory, which posits that reinforcement is most effective when it follows a clearly identified behaviour. Contingent reinforcement enables pupils to associate their classroom participation with positive consequences, thereby strengthening desirable learning behaviours and increasing the likelihood of future participation. When reinforcement is directly tied to pupils' efforts and achievements, it creates clear behavioural expectations and promotes consistent classroom engagement.

The result also supports earlier empirical findings. It agrees with Kazdin (2005), who reported that contingent reinforcement significantly improved students' classroom behaviour and participation. Likewise, the findings are consistent with Asamaigbo and Okoiyere, who found that contingency-based reinforcement significantly enhanced pupils' academic engagement and task participation when rewards were directly connected to performance. Similarly, Ifeakor and Ikwelle (2023) reported that positive reinforcement strategies tied to learners' academic efforts significantly improved students' motivation and classroom involvement.

The positive influence of contingency observed in this study may be explained by the fact that pupils are motivated when reinforcement is perceived as fair, transparent, and directly connected to their own classroom efforts. This act of reinforcement will get rid of doubt, create responsibility and infuse the pupils with confidence that their active participation will be recognised.

In public primary schools in the Rivers West Senatorial District where pupils are of different capabilities and backgrounds, contingent reinforcement enhances equality, enhances classroom discipline and induces the pupils to actively participate in the teaching and learning process and also, it develops the learners' aversion motivation to participate actively in the teaching and learning process by internalizing the activity.

CONCLUSION

The purpose of this study was to investigate the relationship between immediacy, contingency and class

participation among public primary school pupils in Rivers West Senatorial District, Rivers State. The data revealed that immediacy and contingency are significantly related to pupils' active class participation.

In this way, the research found that as teachers show realization to their pupils by offering instant reinforcement (praise, positive feedback, eye contact, encouragement and reinforcement) students were confident, motivated and involved in the class activities. On the other hand, when reinforcement was dependent on good classroom behaviour, students recognized the relationship between participation and the rewards they received, thus motivating a very high commitment to participate.

These results also support the premise of the theory of Operant Conditioning, which states that people tend to repeat actions which are instantly and suitably reinforced. So teachers who always reinforce their actions in this

way will approach learner-centred teaching where students actively join in class discussions and respond to questions naturally and comfortably, learn collaboratively with their classmates and become more motivated.

For public primary schools in Rivers West Senatorial District where large class sizes and inadequate instructional materials are pressing concerns, the use of such strategies as immediacy and contingency can be the pragmatic approaches to increasing classroom participation and enhancing learning, where on the basis of tangible benefits without demanding additional resources.

Their extensive application may be a cost-effective approach that can lead to better quality of primary education and supports the achievement of the SDG 4 (Quality Education).

RECOMMENDATION

Based on the findings of the study, the following recommendations were made:

1. Teachers should consistently provide immediate reinforcement such as praise, encouragement, prompt feedback, smiling, and recognition after pupils demonstrate desirable classroom behaviours.
2. Teachers should ensure that reinforcement is contingent upon pupils' active participation, so that learners clearly understand that positive classroom behaviour attracts positive consequences.

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