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ENHANCING CLASS PARTICIPATION FREQUENCY THROUGH STICKER-BASED POSITIVE REINFORCEMENT

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ABSTRACT

This study aimed to determine the effectiveness of sticker-based positive reinforcement in enhancing the classroom participation frequency. The study used a quasi-experimental design, specifically a two-group pre-test and post-test design, to determine the effectiveness of the intervention. The participants were 72 Grade 9 learners from Talavera National High School, with 35 learners in the control group and 37 learners in the experimental group given sticker-based positive reinforcement over a one-month intervention during regular classes. Baseline participation frequencies were recorded before the intervention, and post-intervention frequencies were tracked afterward. Shapiro–Wilk tests showed that baseline and post-intervention data for both groups were not normally distributed. A Mann–Whitney U test indicated no significant difference between the control and experimental groups at baseline, confirming comparable starting levels. After the one-month intervention, the Mann–Whitney U test revealed a statistically significant difference in class participation frequency in favor of the experimental group. These findings indicate that sticker-based positive reinforcement is an effective classroom strategy for increasing learner motivation and active participation during discussions.

KEYWORDS: *Sticker-Based Positive Reinforcement, Class Participation Frequency, Quasi-Experimental Study, Learner Engagement, Classroom Motivation*

CONTEXT AND RATIONALE

The Department of Education (DepEd) emphasizes the importance of high-quality, learner-centered, and effective lesson planning and implementation. A well-planned lesson plan serves as a roadmap for teaching. However, effective lesson implementation is grounded in the active participation of the learners in classroom activities and discussions. In addition, Abdulayeva (2024) said that a well-planned lesson leads to respect for the teacher from the students, solves discipline issues in the classroom, and improves the learners' motivation and readiness to learn.

In line with the standards of the Philippine Professional Standards for Teachers (PPST), specifically Domain 2: Learning Environment, Strand 2.4 (Learner Motivation and Engagement), teachers are required to employ strategies that motivate learners and actively engage them in the teaching-learning process. It is important to create a conducive classroom environment in order to achieve learner participation, engagement, motivation, and success.

Class Participation

Class participation is an important element in the learning process. Participation allows learners to state their views, ask questions, relate experiences, and understand the material being taught. By participating, the learners become more involved in creating knowledge, while, on the other hand, the teachers get the chance to assess understanding and give immediate feedback to learners. Nonetheless, although the lessons are well thought out and varied teaching methods are used, some learners tend to be reluctant when participating in class discussions. There are some instances where, while most of the students are very interested in speaking up, many more students are avoiding participation (Atifnigar et al., 2022). When participation is limited to only a few students, collaborative learning becomes difficult, and classroom interaction becomes minimal.

Positive Reinforcement

Nowadays, positive reinforcement is one of the strategies used to increase classroom participation of the learners. According to Skinner's Theory of Operant Conditioning, it is the act of presenting a reward after desirable behavior, which increases the probability of repeating it. In addition, positive reinforcement is key in developing learners' behavior and attitudes towards learning (Macalisang & Bonghawan, 2024).

Similarly, Scott and Landrum (2020) noted that positive reinforcement is still one of the most evidence-based practices in education due to its ability to promote positive behavior and a positive learning environment.

Furthermore, positive reinforcement was associated with greater student attention, participation, collaboration, and motivation (Sackey, 2025). It is also highlighted in the study that the fact that learners were rewarded for their good behavior made them engage in the learning process and minimized passive and disruptive behavior. It means that positive reinforcement may be considered an effective classroom management tool. If students receive rewards for focusing on their lessons and taking part in class, then they will want to keep doing it.

The different forms of positive reinforcement in the classroom setting include praise, acknowledgment, privilege, token, or tangible reward such as a sticker. Among the several methods of positive reinforcement, it has been observed that the use of stickers as reinforcement in the classroom setting is both practical and efficient. The use of stickers acts as immediate reinforcement for the efforts of the students and thus works as a form of reinforcing activity for the learner.

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According to Rulona et al. (2025), the introduction of the Sticker-Based Participation and Reward Key System increased learners' motivation and improved their academic results. In a similar study conducted by Hashim (2021), it was found that reward stickers increased learners' motivation and learning attitudes.

In the context of Talavera National High School, classroom observations done by the master teacher pointed out the same issue. During class discussion, there were only a few learners who kept on participating and answering questions in class, whereas some learners remained passive even though they had the ability to contribute answers to the question being raised in the classroom. This situation was not helping classroom interaction and the effective implementation of lessons. The researchers needed an intervention that would help the learners participate in class.

Considering the aforementioned low rate of learners' participation and considering the efficiency of positive reinforcement and sticker-based participation in education, this research aims to find out the effectiveness of positive reinforcement using stickers to increase the rate of learners' participation in classes. Specifically, the study will examine whether giving students stickers as rewards for their participation in classes can make them participate more often. As revealed in the study of Sarkar (2025), positive reinforcement enhances the motivation and engagement of students, leading to improved participation and academic performance.

Research Questions

This action research aimed to determine the effectiveness of sticker-based positive reinforcement. Specifically, it aimed to answer the following questions:

1. What is the baseline level of performance of the following groups of learners based on the class participation frequency:

a. Control Group which will be given a conventional participation method; and

b. Intervention Group which will be introduced to the sticker-based positive reinforcement?

2. Is there a significant difference in the baseline level of performance of the learners in the two groups?

3. What is the level of performance of the two groups of learners based on the class participation frequency?

4. Is there a significant difference in the class participation frequency of the learners in the two groups?

Hypothesis

Ho: There is no significant difference in the proficiency level of the control and experimental groups in their class participation frequency.

Significance of the Study

This study may be significant to the following:

Students: The study may increase class participation during discussion. It may also help them to be motivated during discussion.

Teachers: They may benefit from the study by understanding that positive reinforcement is an effective tool in increasing the class participation of the learners. It may also help them to learn how to use sticker-based positive reinforcement in their class.

School Heads: The findings of this study may provide them with insights on how to become supportive of the teachers in enhancing class participation.

Future Researchers. The study may be significant to them by using it as a reference and learning more about sticker-based positive reinforcement.

Scope and Limitations of the Study

The study aimed to investigate the effectiveness of sticker-based positive reinforcement in enhancing learners' class participation frequency. The study will be delimited to analyze the test scores obtained by the two groups of participants, the control group and the experimental group, in teaching Mathematics 9. It is geographically limited to Talavera National High School during the school year 2026 – 2027, with a sample size comprising 72 student participants. The scope does not encompass macro-level external factors, and its findings may not be directly generalized to other institutions or different periods.

METHODOLOGY

Type of Research

This study employed a quasi-experimental design, specifically a two-group pre-test and post-test study design, to determine the effectiveness of sticker-based positive reinforcement in enhancing the class participation frequency of the learners.

Participants

The participants in this study were 72 Grade 9 learners in Talavera National High School, 37 of whom were purposively assigned to the experimental group and 35 to the control group.

Sampling Method

The participants comprised two heterogeneous sections: Abueva and Figueroa. The control and experimental groups were assigned using random sampling.

Sources of Data

The research employed a primary data source, obtaining information directly from the participants by administering the pretest and post-test assessments.

Data Collection Procedures

The researcher first counted the baseline performance of the participants through their class participation frequency. Based on the results, the control and experimental groups were confirmed to have comparable scores, ensuring the reliability of the study. The experimental group was then taught with sticker-based positive reinforcement, while the control group received instruction with the conventional participation method. The intervention for the experimental group was implemented over one month during regular Mathematics classes. After the intervention period, both groups were assessed to identify the frequency of their class participation. The collected data were analyzed using appropriate statistical tools to determine the effectiveness of the intervention. Throughout the data collection, the researcher ensured that

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regular classes continued as scheduled and maintained the confidentiality of the participants.

Ethical Considerations

The study was conducted in a regular classroom setting, and the participants were not made aware that they were part of a research activity to avoid the Hawthorne Effect, where individuals change their behavior because they know they are being observed. The researcher ensured that the normal flow of classes was not disrupted during the conduct of the study. All data collected from the participants were treated with strict confidentiality and anonymity. Consent was obtained from the school head and the parents of the learners before the start of the intervention. The researcher followed all ethical guidelines set by the Schools Division Research Committee throughout the completion of the study.

Data Analysis

The Shapiro-Wilk test was used to determine whether the class participation frequency of the control and experimental groups were normally distributed. Since the pretest scores of the control group were not normally distributed, the Mann-Whitney U test was applied to compare the pretest scores of the two groups, which showed no significant difference. After the intervention, the post-test scores of both groups were also found to be not normally distributed. Therefore, the Mann-Whitney U test was again used to compare the post-test results, which revealed a significant difference in favor of the experimental group. A p-value of less than 0.05 was considered statistically significant. The statistical analysis was done using a trial version of SPSS software.

RESULTS AND FINDINGS

1. **Class Participation Frequency Before the Intervention**

Class Participation Frequency Before the Intervention	
Control Group	**Experimental Group**
4	4
5	5
6	6
3	4
3	3
3	3
4	3
7	3
6	5
5	5
4	5
2	6
3	7
3	3
3	2
4	3
4	2
3	3
2	2
3	5
3	2
4	2
4	2
4	2
3	4
3	3
3	7
2	3
3	4
4	6
4	3
3	3
2	6
2	4
3	2
	4
	4

Table 1. Results of the Class Participation Frequency Before the Intervention

1.1 Shapiro-Wilk Test Results

Test	Statistic	p-value	Interpretation
Shapiro-Wilk (Control)	0.858	0.000	Not Normal
Shapiro-Wilk (Experimental)	0.898	0.003	Not Normal

Table 2. Shapiro-Wilk Test Results (Before)

Table 2 presents the Shapiro-Wilk test results. The test determined whether the class participation frequencies before the intervention were normally distributed in both groups. For data to be considered normally distributed, the p-value should be greater than 0.05; if it is 0.05 or lower, the data are not normally distributed. The results showed that the control group's scores were not normally distributed (statistic = 0.858, p-value = 0.000). Also, the experimental group's scores were not normally distributed (statistic = 0.898, p-value = 0.003). Because the control group's data and experimental group's data were not normal, a non-parametric test will be used for further analysis.

1.2 Mann-Whitney U Test Results

Test	Statistic	p-value	Interpretation
Mann-Whitney U Test	606.5	0.632	Not Significant

Table 3. Mann-Whitney U Test Results (Before)

Table 2 shows the results of the Mann-Whitney U Test before the intervention was applied. Based on the previous analysis, since the control group's data were not normally distributed, the Mann-Whitney U test was used to compare the pretest scores between the two groups. This test showed no significant difference (statistic = 606.5, p-value = 0.632). A p-value less than 0.05 would indicate a significant difference, but since the obtained p-value was greater than 0.05, it means there was no significant difference between the pretest scores of the control and experimental groups.

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2. Class Participation Frequency After the Intervention

Class Participation Frequency Before the Intervention	
Control Group	**Experimental Group**
4	11
5	12
6	19
4	10
3	13
9	11
4	15
6	13
7	21
7	19
3	14
5	12
3	13
5	16
3	16
2	18
9	11
3	13
4	13
2	14
3	11
5	12
5	13
6	14
5	17
3	14
5	20
5	10
3	11
5	12
6	11
3	12
5	12
4	16
4	14
	13
	15

Table 4. Results of the Class Participation Frequency After the Intervention

2.1 Shapiro-Wilk Test Results

Test	Statistic	p-value	Interpretation
Shapiro-Wilk (Control Post-test)	0.910	0.007	Not Normal
Shapiro-Wilk (Experimental Post-test)	0.906	0.004	Not Normal

Table 5. Shapiro-Wilk Test Results (After)

Table 5 presents the results of the Shapiro-Wilk test. This test was used to determine whether the class participation frequencies after the intervention followed a normal distribution. For data to be considered normally distributed, the p-value should be greater than 0.05. A p-value of 0.05 or less means the data is not normally distributed. The control group's post-test scores had a p-value of 0.007, indicating that they were not normally distributed (statistic = 0.910). Similarly, the experimental group's post-test scores had a p-value of 0.004, also showing they were not normally distributed (statistic = 0.906). Since both groups do not follow a normal distribution, a non-parametric test was needed for further analysis.

2.2 Mann-Whitney U Test Results (Post-test)

Test	Statistic	p-value	Interpretation
Mann-Whitney U Test	0.000	0.000	Significant

Table 6. Mann-Whitney U Test Results (Post-test)

Table 6 demonstrates the Mann-Whitney U test of the post-test. The test showed that both groups' post-test scores were not normally distributed, the Mann-Whitney U test was used to compare the scores. The result of this test showed a p-value of 0.000, which is less than the required 0.05 level for significance. This means there is a significant difference between the post-test scores of the control and experimental groups (statistic -0.000). The difference suggests that the intervention applied to the experimental group had a meaningful effect compared to the control group.

CONCLUSIONS

1. The class participation frequency before the intervention of the control and experimental groups showed no significant difference, based on the Mann-Whitney U test (p-value = 0.632). This means both groups had similar performance before the intervention, and any improvement seen later can be linked to the intervention used.

2. After applying the intervention, the class participation frequency after the intervention showed a significant difference between the two groups, as indicated by the Mann-Whitney U test (p-value 0.000). The experimental group, which used sticker-based positive reinforcement, accumulated more participation than the control group, which was taught using the conventional participation method.

3. The increase in the frequency of class participation in the experimental group shows that sticker-based positive reinforcement is an effective strategy for encouraging active involvement among the learners.

4. The use of sticker-based positive reinforcement enhanced learners' motivation, resulting in greater willingness to participate in class discussions, answer questions, and engage in classroom tasks.

Recommendations

1. Teachers are advised to incorporate sticker-based positive reinforcement during class discussions and problem-solving activities to encourage quieter or reluctant learners to participate more frequently, while setting clear, fair criteria for earning stickers so participation remains meaningful rather than purely reward-driven.

2. School heads and administrators should support the implementation of positive reinforcement strategies by

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providing teachers with training, resources, and opportunities to share best practices in motivating students' participation.

3. Curriculum planners and instructional leaders may want to include positive reinforcement techniques in teaching guides and learning programs to promote active learning and student engagement across different subjects.

4. Further studies might examine the long-term impact of sticker-based positive reinforcement on students' motivation, behavior, academic performance, and attitude toward learning.

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