



POINTING SYSTEM INTERVENTION FOR NON-PARTICIPATIVE STUDENTS IN TECHNOLOGY AND LIVELIHOOD EDUCATION (TLE) CLASS: A CLASSROOM-BASED ACTION RESEARCH

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Abstract:

Non-participative students in classes have a detrimental effect on the social learning environment. Low student participation is a common problem. This classroom-based action research aims to increase students' active participation in Technology and Livelihood Education (TLE) classes. The researcher used a quantitative-descriptive approach in gathering data. Descriptive analysis is employed to interpret the quantitative data utilizing frequency, mean, percentage, and standard deviation to conclude. To increase classroom participation, the researcher integrated a "Pointing System" intervention strategy as an extrinsic motivation. A paper-pencil test examination was used as pre-test to gather pre-data while conducting this action research. The researcher collected post-data using another set of paper-pencil test as post-test after a month of intervention. Pre- and post-data are used in the descriptive analysis to conclude its association with class participation. The data revealed that there are 42 out of 60 students who have undergone the intervention. Students who passed the pre-test took part in the intervention without using the strategy applied. The post-intervention statistics showed significantly more active participants—51 in total—than before the intervention. The "Pointing System" would encourage the students to engage in more active learning throughout the teaching and learning session. The researcher concluded that students actively participate in class and perform well academically if "Pointing System" is integrated as one of the external sources of incentive.

Keywords: class participation, pointing system, intervention, Philippines

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1. Introduction

Student participation is a crucial and significant element in the teaching-learning process. Students participate when they are affected by environmental, linguistic, cognitive, emotional, or sociocultural variables. They frequently become less involved in class discussions and interact with teachers and fellow students less regularly, speaking only when necessary. In marginal interactions, students listen more and talk less in front of the class. Interacting with students directly during the course is invaluable for efficiently conveying the lesson content and ensuring they understand it (Abdullah *et al.*, 2012).

On the other hand, it is a requirement for the students to be punctual and thoroughly comprehend, seek out, and put into practice the knowledge and skills that are given in the classroom or during other learning activities. The relationships between professors and students, when they are compatible, do foster a productive learning environment. The student's curiosity will create an engaging learning environment and desire to engage in class through these vocal exchanges (Davis, 2009). Once the integration is complete, students actively participate in class discussions and know what to say and what not to say. Their class participation is typically natural and effortless (Abidin, 2007).

Class participation takes many forms, including simple questions and explanations from the students (Constantinople *et al.*, 1988). The most popular and valuable forms of classroom engagement at the secondary level include discussions, discourse, and presentations. Ideal class discussions involve everyone participating, being interested, learning, and taking in the explanations and knowledge of others (Aziz *et al.*, 2018). Students discuss various social and cultural norms, historical knowledge, preconceived notions, and contextual factors, including interpersonal and circumstance experiences (Wade, 1994). The opinion of peers was a significant additional factor that encouraged students to speak up in class. The traits displayed by peers or classmates significantly motivate students to participate in class discussions. Thus, if students feel secure in themselves, it will boost their confidence and encourage them to participate and speak up more in class. They will ask questions, share opinions, and participate in class discussions to show a stronger drive to learn and expand their knowledge. According to Maziha *et al.* (2010) study of undergraduate students in a Malaysian university classroom, students may become inactive during class discussions due to their limitations, such as their inability to focus during lectures or other learning activities or their fear of offending others. Additionally, Cayanus & Martin (2004) discovered that open-minded students inspire others to participate actively in class.

The qualities and abilities of the teacher are other crucial components that influence how actively the pupils engage in class. The instructor demonstrated qualities like being understanding, accessible, and kind by using their nonverbal cues to smile and nod in agreement with the responses offered by the pupils. In addition to the good traits displayed by the teacher to promote engaged student participation in class discussions, the instructor's abilities may also have an impact on the environment in the classroom.

Compulsory participation, often called compelled participation, occurs when the teacher chooses a student to reply. Dallimore et. al (2004) called this "*cold calling*." Students like being aware that they may all be randomly selected to answer in such circumstances. Students who are there physically but not cognitively are considered non-participants. They would sit at the back of the room, avoid eye contact with the instructor or other students, and nap or engage in anything except classwork (Weaver *et al.*, 2005). Liu and Mack (2012) highlighted the significance of instructors' and students' roles in classroom involvement. They concluded that "*oral participation evokes feelings of power and powerlessness*." Lack of participation makes students feel isolated and disregarded by their peers. He emphasized the need for social inclusion, instructional strategies, and student input to ensure fair class participation.

Students and teachers would benefit from active engagement in this study work in the classroom. Teachers must be familiar with participation-boosting techniques to encourage students' active engagement. The research intervention would encourage instructors and students to participate actively, producing excellent results. Their engagement in class has a direct impact on their academic success. The pupils who actively participate in the class can learn better than those who do not, according to Weaver & Qi (2005). It demonstrates unequivocally how involvement in the classroom improves academic success.

The researcher's experience as a pre-service teacher was the foundation for this action research. Most students need to engage in class, which is an issue that this action study attempts to address. The researcher looked at several strategies to increase student involvement in the class. To increase classroom involvement, the researcher developed a "Pointing System" intervention strategy as extrinsic motivation. Involvement and engagement in class have a direct impact on the learning outcome. Briggs (2003) states, "*The level of student-student interaction and student-teacher interaction determines the learning process*." This claim demonstrates that students learn more effectively when they actively participate in class.

2. Intervention (Extrinsic Motivation - Pointing System)

Students must be inspired to engage and enhance the learning process to include them effectively. Many approaches may boost motivation (Regueras *et al.*, 2008). Giving grades as rewards every after class or activity encourages students to participate actively in class. Students eagerly participated because they knew there was an equivalent grade for everything they did in class. On the other hand, extrinsic motivation entails participating in an activity to get benefits (Deci, 1975).

Extrinsic motivation serves to an end in that the conduct is the means, and some consequence is the goal. For example, a student may spend hours studying for a test to get a decent mark. In this scenario, a reward and a punishment drive the student. The benefit is a passing grade. Incentives continuously boost or prevent the onset of a behavior. Thus, the promise of a high grade before the task is due frequently motivates

pupils. Students could also be driven by adverse outcomes, like failing an exam. Consequences usually accompany conduct and frequently affect how persistent the behavior is.

Venn (2000) covers the many methods used to grade pupils. For instance, teachers are frequently using competency-based grading and point system. The competency-based or criterion-based grading evaluates their ability to demonstrate adequate proficiency in specific skill areas. Students can receive full or partial credit for completing assignments like examinations, quizzes, and papers using point systems. The point totals after the semester calculated the final grades. According to Feldman *et al.* (1998), point systems are frequently used by teachers because they enable them to accurately record their student's work and progress, help students stay on track, and give final grades. The most popular grading systems are competency-based and point-based (Hendrickson & Gable, 1999).

According to Reeve (2001), most individuals view grades as positive reinforcers since they raise the possibility that the action that leads to them will occur. Furthermore, rewards like grades communicate about a student's progress and competence and increase the likelihood of certain behaviors. Although grades can encourage students to understand and study course content, there are limits to how much desire they can inspire. Extrinsic reinforcers, like grades, interfere with the process and quality of learning and operate to reduce intrinsic motivation, according to a wealth of studies (Condry, 1977).

3. Research Questions

- 1) What is the participants' performance before and after implementing the pre-test?
- 2) What are the participants' overall performance before and after implementing the post-test?
- 3) How can we increase the level of student participation during TLE classes?

4. Material and Methods

Absence of students' participation in TLE class was the problem issue for this study. The goal of this study was to increase student participation. The researcher used a quantitative approach in gathering data. The researcher used the class examination (pre-test and post-test) to collect the data. Following data collection, a descriptive analysis is performed to interpret the quantitative data utilizing mean, percentage, and standard deviation to conclude active participation. This classroom-based action research employed an intervention to increase classroom participation. Full ethical consideration was applied in gathering the data which follows the protocols in asking permission to the school head and department coordinator, voluntary participation with consent forms and data privacy on personal data and records of the participants.

4.1 Participants/Data Sources

The participants of the study were coming from the Grade 10 students under TLE classes of the researcher excluding the non-Grade 10 students. There were 60 students who underwent the pre-test; 18 students passed, and 48 failed the pre-test. As a result, 48 out of the 60 students need an intervention. The extrinsic incentive motivates respondents to actively participate in class discussions by offering them points at the end of each topic—a five-week observation period, including lectures. The initial data gathering occurred between March 6 - 9, 2023, and the post-data gathering occurred between April 10 – 13, 2023. The pre-test and post-test, and observation checklist were the data utilized in this study. The researcher recorded their involvement styles and frequency throughout the class hours.

4.2 Data Gathering Procedure

The steps followed during the study period are outlined weekly in the following project action plan. The steps done each week to boost TLE students' involvement in class are detailed. The researcher followed an action plan through pre-documentation, intervention implementation, and post-documentation phases as stated below:

Pre-week

March 6 – March 9, 2023 (Week 1)

- Organizing materials and props to be utilized in lessons,
- Class observation,
- Short quiz,
- Checking of notebooks.

Pre-documentation

March 13 – 16, 2023 (Week 2)

- Reviewing the lesson,
- On-going class observation,
- Checking of scores,
- Checking of notebooks,
- Giving of pre-test.

March 20 – 23, 2023 (Week 3)

- Analyzing the collected data: observations and given pre-test.
- Continue the class observation.

Intervention

March 27 – 30, 2023 (Week 4)

- Giving or rewarding points/grades as a form of motivation

Post-documentation

April 10 – 13, 2023 (Week 5)

- Post-test,

- Analyzing the collected data after implementing extrinsic motivation as an intervention.

4.3 Data Analysis

The student's participation was identified as the problematic issue in this study. The researcher surveyed a small group of students from the TLE class, particularly in Grade 8 section Dahlia. There were 60 students in TLE class; 48 students participated in the pre-test as respondents. Extrinsic motivation encourages respondents to actively participate in class discussions by providing points for each topic during a five-week observation period, including lectures. The initial data collection occurred between March 6 and March 9, 2023, and the post-data group occurred between April 10 and April 13, 2023. The methods used in this study were pretest post-test and observation checklists.

5. Results and Discussion

The researcher delivered a class discussion, and a test was given to the class to see if the information was reliable. The outcome of the class test served as the data's baseline. The number of students participating in class was also noted during the session.

Table 1 below shows the baseline data for the pretest result of the class test. Out of 20 items, the lowest mark scored by a sample student was 5, and the highest was 14. Their mean was 9.5, with a standard deviation of 3.08. Maziha *et al.* (2010) proved that students might become inactive during class discussions due to limitations, such as their inability to focus during lectures or other learning activities.

Table 1: Pre-test results of the sample students

N	Lowest Score	Highest Score	Mean	Standard Deviation	Remarks
60	5	14	9.5	3.08	Baseline

Table 2 below displays the sample students' class participation before intervention. Only 18 out of 60 students in the class actively participated throughout the whole course without assistance. Through this information, the researcher determined that 30% of the students were actively engaged in class without assistance of the teacher.

Table 2: Sample students' participation before the intervention

N	Number of Students' Participation	Percentage	Remarks
60	18	30%	Baseline

After gathering baseline data, the researcher integrates the "Pointing System" intervention into practice for the duration of the researcher's teaching internship experience. The teacher's extrinsic motivation significantly impacted students' participation. The students are more participative if the teacher uses a "pointing system" or grades to motivate the class. How teachers grade their work greatly influence students'

participation in class. To determine the success of the chosen intervention, the researcher administered a class exam following the intervention.

Table 3 below shows the post-test data of the class test. It was conducted after intervention for a month. Out of 20 items, the minimum mark scored by a sample student was 15, and the maximum was 17. Their mean was 16, and the standard deviation was 4. According to Zinjay et. Al (2019), class participation is a crucial in learning. Learning occurs throughout the classroom, not only between the student and the instructor. Active learning is ideal for students. The results are better when the students actively participate in the learning process.

Table 3: Post-test results of the sample students

N	Lowest Score	Highest Score	Mean	Standard Deviation	Remarks
60	15	17	16	4	Improved

Table 4 below displays the sample students' post-intervention classroom participation. 51 of the 60 students in the class actively engaged throughout the whole subject despite receiving assistance. Through this information, the researcher determined that up to 85% of students participate in class when the teacher implements a "Pointing System" or awards extra points or grade for each task they submitted. Reeve (2001) stated that rewards like grades communicate about a student's progress and competence and increase the likelihood of certain behaviors.

Table 4: Sample students' participation after the intervention

N	Number of Students' Participation	Percentage	Remarks
60	51	85%	Improved

Table 5 below illustrates the distinction between sample students' classifications before and after the intervention. The below-average students were twelve (12) students before the intervention. Six (6) students reported falling into the below-average category after the intervention. This demonstrates a 10% improvement for all the below-average students. Before the intervention, there were 30 students in the average class; after the intervention, there were only 12. The average category shows a 30% improvement. There were 18 students in the above-average group. Twenty-four (24) more students entered this group after the intervention, bringing the total to 42 students. This indicates a 40% improvement after implementing the intervention. In general, there is an 80% overall improvement.

Table 5: Difference in the classification of sample students before and after the intervention

Score Range	Classification	Pre-intervention		Post-intervention		Difference/Improvement	
		No. of Sample Students	%	No. of Sample Students	%	%	Remarks
5 Above	Above Average	18	30%	42	70%	40%	Improved
4 - 4.9	Average	30	50%	12	20%	30%	Improved
3.9 Below	Below Average	12	20%	6	10%	10%	Improved
Total		60	100%	60	100%	80%	

Table 6 below displays the variation in sample students' classroom participation before and after the intervention. Before the intervention, 30% of the students participated in classroom instruction and learning. As the intervention began, the teacher researcher imposed extrinsic motivation—a "Pointing System"—on the students. Positive feedback was added to their replies. Then, there were more people participating actively daily. 85% of the students were engaging in the teaching and learning lesson with intervention, according to the statistics. Between with and without intervention, there is a difference of 55%. This distinction demonstrates that the "Pointing System" is essential for teachers to encourage students to participate. Deci (1975) proves that students eagerly participated because they knew there was an equivalent grade for everything they did in class. On the other hand, extrinsic motivation entails participating in an activity to get benefits.

Table 6: Difference in classroom participation of sample students before and after the intervention

Classification	No. of Students	Percentage	Remarks
Before intervention	18	30%	Baseline
After intervention	51	85%	Improved
Difference / Improvement	33	55%	Improvement

6. Conclusion and Reflection

In conducting this study, the researcher was convinced that the "Pointing System" intervention was suitable for all students' efforts to have more active classroom participation, resulting in exceptional academic success. The researcher has integrated the "Pointing System" as an intervention strategy to see if it increases engagement in the teaching and learning TLE class. The post-intervention statistics showed significantly more active participants after the intervention. The "Pointing System" during the teaching and learning TLE class was more accessible for the researchers to comprehend and use. Moreover, it would encourage the students to engage actively and be more participative in TLE class. Ultimately, this would support the students in achieving outstanding academic success. Furthermore, to have active class participation and perform well academically, a teacher may use the "Pointing System" as an external source of incentive.

5. Action Plan

Following the completion of the planning phase, the researcher began carrying out the strategy. Given the considerable sample size in the classroom, the researcher adopted a random sampling procedure. The researchers started working on the data gathering once the class had been selected for sampling. The researcher conducted an in-class exam during the lesson without making any changes. Their regularity of attendance in class was also noted as the baseline data. Afterward, the researchers employed a "Pointing System" intervention to encourage sample students to participate in class for the whole duration of the researcher's teaching internship. The researcher altered the teaching style throughout the intervention by imposing the "Pointing System" as extrinsic motivation to all the students. Positive feedback is always given to appreciate the pupils' responses. Following the implementation of the intervention, the researcher again gathered information on classroom participation during lessons and class tests. Additionally, the researcher conducted questionnaire surveys to determine whether the chosen intervention was appropriate for the students and whether it aided their involvement in class. To assess the efficacy of the chosen intervention and demonstrate a change in academic performance and classroom involvement, the researcher evaluated pre-data, post-data, and questionnaire data.

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