

Classroom Management in Mathematics Class: University Students' Perception

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Classroom Management in Mathematics Class: University Students' Perception

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Abstract: Classroom management is an important undertaking in the education sector. It enables teachers to deliver instructions and support students to achieve their full potential. It is imperative to state that teachers strive to keep the class environment free from any kind of disruption to ensure that learning goals are achieved. The process entails managing the behaviors and actions of learners and motivating them to engage in class activities. Thus, classroom management has become an important part of the teaching process. The present study aimed to determine students' perceptions toward classroom management in Mathematics Class at the mathematics department of Universitas Muhammadiyah Purwokerto. In the study, a survey method was used to obtain information from a sample population of 120 students. The questionnaires were based on five primary indicators that included class arrangement, discipline enforcement, students' behavior control, communication with students, and effective class organization. The results showed that students had a positive perception of class management employed by the lecturer. However, further investigations are required to determine how each of the five indicators affects performance in mathematics.

Keywords: Perception, classroom management, mathematics, students, control

I. INTRODUCTION

Background

The education sector has changed significantly over the years. Furthermore, attempts are being made to identify ways of using different innovations and techniques to improve the services that students get in institutions of learning [12; 24; 30]. One of the factors that have contributed to the changes in the education sector is the existing educational environment that is characterized by students with unique needs and abilities. The effort to improve education quality by the authorities will have no meaning if there is no effort to improve teachers' ability in managing the classes. The education quality will not be better without correct application of class management, because class management by the teacher holds its importance in the learning process. In order to successfully improve education quality, the teacher must have these two skills when conducting the learning process; (1) designing learning program; (2) managing classes well [36; 40]. The teacher will have an easier time to reach the aim of the learning process if he/ she can implement class management well or conduct an effective learning process both for individual and group. Class management has a role when it comes to students learning achievement. The teacher is required to have good class management skills to successfully improve student's achievement in learning. In this regard, a teacher must be able to conduct an effective learning process. Class management itself is an aspect that received attention by the teacher, both by new or established teachers. The attention that comes from the teacher is the manifestation of teachers' will to create a learning process that can deliver the material in a good way, and thus, make the material easy to understand by the students.

Classroom management encompasses the activities that teachers undertake to direct and organize classes in a way that will lead to the realization of specific academic goals [8; 42]. Furthermore, it

entails using techniques and methods that will ensure that the teacher is in charge of the classroom, reduces discipline-related problems, and guarantees that students remain focused during the teaching process. Classroom management is a general term that is used to refer to the actions that the educators engage in to manage the behavior of students, classroom activities, and the learning methods. The process entails dealing with behavioral problems, offering the right instructions, creating order, and assessing the activities that students undertake in the classroom. In other cases, it has been reported that the hallmark of classroom management is reducing cases of deviancy in the classroom and guaranteeing that there is a high rate of work involvement among the students. Thus, effective classroom management can significantly influence the realization of short term and long-term academic goals.

For many new teachers, the teaching process involves the direct transmission of information to passive students. Furthermore, such educators do not understand the importance of developing and using effective classroom management methods and how such techniques may affect the academic performance and social behavior of students [22; 43; 56]. Despite this being the case, there is a need for all teachers to be enlightened about the importance of carefully managing their classes. The process entails creating awareness about how classroom management may help in reducing cases of disorder, and negative behavior in the class [39; 41; 44]. Although attempts have been made to train teachers on how to improve the academic performance of students, little information exists on the specific methods that should be used in mathematics classrooms. Thus, there is room for further investigations on the topic of classroom management with a special focus on mathematics teaching.

It is imperative to state that effective teaching and classroom management is a major determinant of the performance of students in mathematics. The trend is attributed to the fact that mathematics teachers can impart knowledge effectively when there are minimal disruptions in the classroom. Teachers are expected to be enthusiastic about their duties and create a conducive environment in which the students will be able to acquire new knowledge [5; 47]. While teaching mathematics, educators are required to select classroom activities that will enrich the learning process and enable students to master new concepts. Furthermore, the teacher should set the classroom expectations for the learners and provide effective feedback to students [32; 45]. It is also worth stating that the teacher may be required to interact with the students, encourage them, and stimulate learning. These goals can only be realized when effective classroom management methods are used. The trend has motivated researchers to carry out studies on the strategies that can be adopted in class settings to promote learning, resolve conflicts, and minimize disruptions [17]. The outcomes of the studies provide vital insights that can be used to enhance mathematics teaching process and ensure that students perform at optimal levels.

A poorly managed classroom is usually linked to discipline issues that may adversely affect the performance of students [48; 51]. A well-managed classroom, on the other hand, creates a composed environment in which the teacher can assist students in flourishing and mastering concepts. Researchers concur that poor classroom management remains one of the factors that contribute to the failure of new teachers to positively influence students and succeed in their careers [9; 14]. Furthermore, the trend has been linked to challenges such as burnout and stress among teachers. As a result, the great premium has been placed on enlightening teachers on how they can identify and use the right classroom management methods. Furthermore, attempts have been made to explore how teachers can acquire skills that will enable them to manage daily activities with the class settings and ensuring that students are accorded the right environment to learn [27; 35; 37]. It is worth stating that different in-service programs and induction training have been developed and uses to assist teachers in learning about the importance of

classroom management and the methods that they can use to achieve academic goals. Thus, classroom management remains an important topic of research and a factor that can influence the performance of both the teachers and the students in school settings.

Increasing appropriate behavior is one of the major objectives that teachers focus on to create a productive environment for students. Furthermore, teachers understand that the success of their students will depend on the kind of interactions and relationships that are developed in the classroom. Thus, there is a need to promote behaviors that will ensure that there are minimal disruptions in the classrooms. Compared to their peers, students who face behavioral problems receiving instructional interactions and assistance from some teachers [60]. Despite this being the case, the teachers always have to determine how well they can manage such behaviors and support students to achieve their full potential. Furthermore, teachers are required to identify techniques and methods that they can use to manage the undesirable behaviors in the school settings and ensure that students get the instructions and support that they need [31; 38; 46]. These are objectives that can be achieved through the use of appropriate classroom management strategies.

Effective management of classrooms is considered to be one of the factors that create a difference between the achievement of academic goals and poor performance. The trend is attributed to the fact that the management methods that educators use in the course of their work will determine whether students will struggle to realize academic goals or succeed in their undertakings [6; 28]. Therefore, the teacher must select the right intervention that will enable them to support students and ensure that they remain attentive in class. Some educators decide to use a direct approach to control classroom activities while others strive to develop collaborative and friendly relationships with the students [4; 15; 16; 18; 52; 54; 55].

In both cases, the primary objective of the teacher should be to create an environment that is free of disruptions. Furthermore, the methods that the teachers use should allow them to assist the students in achieving their full academic performance. In this regard, classroom management is a critical part of the education sector that can affect the extent to which academic objectives will be realized.

II. PROBLEM STATEMENT

In the last decade, studies have been done to explore the topic of classroom management and its importance in the education sector. Furthermore, researchers have strived to generate data that can be used in assessing different techniques that can be utilized to create a conducive learning environment. In such an environment, learners know what is expected of them and what they need to do to achieve their full potential [61; 64]. Furthermore, evidence from previous studies has shown that a well-managed classroom can be linked to better performance among students. Over the years, teachers have also strived to use different management methods, including building positive student-educator environment, organization, and punishment and reward methods to ensure that the learning setting is conducive for learners [6; 28]. In Indonesia, however, the perception of students about the classroom management methods being used has not been explored extensively. It is also imperative to state that issues of mathematics achievement have attracted the attention of teachers and other education stakeholders. Under-achievement in mathematics is considered to be one of the major educational issues that need to be addressed today. The argument is based on the fact that mathematics is an important pillar of all streams in the academic sector. Due to the important role that mathematics plays in the success of students; it is imperative to create an environment that will ensure that learners perform at

optimal levels. From the fact above, this research seeks to explore students' perceptions toward class management methods employed by their lecturer.

Rationale

Students experience different behavioral and emotional challenges in schools. In such cases, the learners may not be able to get the support needed to achieve their full potential and improve their academic performance. It is also worth stating that a continuum of services that are appropriate to the needs of the students may always not be available. The students who experience behavioral problems tend to spend less time getting instructions from the teachers. Furthermore, they may not be able to grasp new concepts that are introduced in the classroom. Despite this being the case, the teachers are expected to develop and use appropriate classroom management methods that will improve the learning process [7; 71]. Furthermore, the teachers need to carefully assess the needs of the students and determine the efficacy and appropriateness of the classroom management methods that have been adopted in different settings. As a result, it is necessary to carry out further investigations on the topic of classroom management [58; 62; 63; 66; 69]. Moreover, it is imperative to determine the perceptions of students regarding the management approaches that their teachers used. In this regard, the present study adds to the existing literature on classroom management with a particular focus on the teaching of mathematics. The current study was also important as it provides vital feedback on the approaches that teachers used to manage disruptive behavior in classroom settings. From time to time, educators will interact with learners who suffer from different behavioral problems that can adversely affect the learning process. In some cases, teachers address the behavioral problems reactively affecting students. Such delays may lead to the worsening of the problems. Furthermore, the increased cases of negative behaviors in the classroom mean that the teacher will not be able to assist all students in achieving their academic potential. Thus, there is a need to develop and use more intrusive and intensive interventions to manage problems. Effective classroom management is considered to be one of the most optimal approaches that the teachers can use to control negative behavior in the classroom and ensure that they do not affect the performance of other students. Even after developing the classroom management methods to be used, the teachers are required to determine whether the approaches are in line with the needs of the students. The evidence gathered in the current study is important as it can assist educators in understanding the emotional awareness of their students and assessing the appropriateness of their classroom management techniques.

III. RESEARCH METHOD

Research Design

The present study entailed conducting a descriptive quantitative study to assess the students' perception of the classroom management approaches used in mathematics lessons. A quantitative research approach was selected in the present study for four primary reasons. First, the method allowed the researchers to assess the link between the independent and dependent variables based on numerical data. This way, it was possible to make generalizable conclusions about the classroom management methods that teachers used in mathematics classes. Second, the approach allowed the researcher to use questionnaires to collect data from a large sample population to improve the reliability and validity of the study. Third, the collection of quantitative data allowed for statistical analysis in the present study. Finally, the method allowed the researcher to collect data cost-effectively. Throughout the study, the focus was on understanding how students perceived the classroom management methods that were being used in mathematics classes in a university.

Setting and Participants

The study was done at the mathematics department of Universitas Muhammadiyah Purwokerto. The university was established in 1965 and initially offered education-related courses only. Over the years, the institution has expanded in terms of faculties and the number of students. Today, several departments include Geography, Social Sciences, Psychology, and Mathematics. In the present study, the sample population was drawn from students in the mathematics department. A total of 120 students were randomly selected to take part in the study. The random sampling method was used to give students equal chances of being considered as participants in this research. Furthermore, the approach helped in reducing the effect of selection error.

Data Collection and Analysis

Once the students were screened and randomly selected to take part in the study, the next process was to gather the data required to answer the research question. Since this was a descriptive quantitative research, the focus was on collecting information that could be used to analyze the problem by means of explanation and description. The researchers used questionnaires to gather data related to students' perception of class management methods utilized by lecturers during mathematics lessons. The questionnaires contained five indicators related to the research questions. They included class arrangement, discipline enforcement, students' behavior control, communication with students, and effective class organization [13]. The participants were requested to respond to all the questions before submitting the questionnaires back to the researcher. It is imperative to state that the questionnaire approach was selected as the data collection tool for three primary reasons. First, it allowed for the gathering of quantitative data that could be used to answer the research question. Second, it enabled the researcher to use the same questions when obtaining data from the 120 students who were included in the final sample population. Finally, the approach allowed for the collection of data cost-effectively and rapidly. The data analysis process was done using a descriptive statistic method to know students' perceptions.

IV. RESULT

The responses provided by the students were used to achieve the objectives of the current study. The answers formed the basis for determining the view of the students regarding the five indicators that were formulated at the start of the study.

Classroom Arrangement

The first area of focus in this study related to the issue of classroom arrangement. Table 1 below shows how the students responded to the six questions used to assess the issue of classroom arrangement.

Table 1. Students' perception toward Classroom Arrangement

No.	Statement	Always	Sometimes	Seldom	Never
1.	The lecturer helps to re-arrange the chair if the chairs are scattered all over the place	-	10%	20%	70%
2.	The lecturer prepares learning media to support the learning process	15%	45%	40%	-

3.	The lecturer creates a comfortable learning atmosphere, so the learning activity becomes effective	70%	20%	10%	-
4.	The lecturer matches the learning media with the learning material	50%	50%	-	-
5.	The lecturer creates a code of conduct/ rules in a learning activity	80%	20%	-	-
6.	The lecturer organizes the students whenever the problem arises among students	50%	30%	20%	-

From table 1 above, it is evident that 70% of the students believed that the lecturers did not help in arranging the classes in a manner that would improve the learning process. About 70% of the respondents argued that lecturers attempted to create a conducive and comfortable learning environment. It is also worth stating that 80% of the participants noted that lecturers provide a code of conduct in learning activities, while 45% argued that learning media are sometimes used to improve the teaching process. Another 40% of the participants opined that the learning media were seldom used in teaching mathematics, while 50% stated that matching learning media have been utilized to assist students in addressing challenges that may arise during mathematic lessons.

Discipline Enforcement

Table 2 below shows the students' perception of discipline enforcement in the class.

Table 2. Students' perception toward discipline enforcement during the learning process

No.	Statement	Always	Sometimes	Seldom	Never
7.	The lecturer always starts and finish the learning activity on time	50%	25%	25%	-
8.	The discipline was implemented inside the class	80%	20%	-	-
9.	Students who violate a rule get a reprimand from the lecturer	50%	30%	20%	-
10.	Students who do not do the assignment, get a reprimand from the lecturer	60%	20%	20%	10%

From table 2, it is apparent that the majority of the students had a positive perception of the discipline enforcement approaches that were used by the lecturers in mathematics classrooms. About 80% of students had a positive perception of discipline enforcement approaches implemented by the lecturers. Only 20 percent of the students argued that their lecturers did not implement discipline enforcement. From the table, it is also evident that half of the students thought that the teachers used precision in terms of time in starting and finishing the learning process and reprimand for the students who came late as the primary methods for enforcing discipline in class. Finally, 60% of the responded stated that their teachers reprimanded students who did not complete their assignments.

Students' Behavior Control

The third area of interest in this study was the perception of the student regarding the way their teachers managed mathematics classes through behavior control. Table 3 below shows the results that were obtained during the project.

Table 3. Students' perception toward control of their behavior by the lecturer

No.	Statement	Always	Sometimes	Seldom	Never
11.	The lecturer gives time for asking and discussing	80%	10%	10%	-
12.	The lecturer uses both theory and practice in the learning process	90%	10%	-	-
13.	The lecturer advises about how to be a friendly student, especially be friendly to their classmate	80%	20%	-	-

When it comes to student's perception toward the control of the behavior in the class by the lecturer, most respondents had a positive view regarding the approaches used by their teachers. In particular, 80% of the students believed that lecturers allowed their students to ask questions about the issues that were not clear to them during mathematics classes. Furthermore, the respondents stated that the lecturers responded to their questions, a trend that made it possible for them to acquire vital mathematics skills and grasp new concepts. Finally, 90% of the students stated that the lecturers positively treated them.

Communication with Students

The fourth concept that was examined in the present study was the idea of communication between the lecturer and the students. The results of the survey are shown in Table 4 below.

Table 4. Students perception towards the communication from the lecturer to the students

No.	Statement	Always	Sometimes	Seldom	Never
14.	The lecturer gives motivation to the students to learn more	50%	20%	20%	10%
15.	The lecturer gives help to the students who have difficulty in learning	75%	25%	-	-
16.	The lecturer creates a good relationship with the students	50%	10%	20%	-

Table 4 shows that the students had a positive perception towards the lecturer from the communication with the student's point of view. In particular, about 75% of the respondents stated that the lecturers always helped the students who had learning challenges during mathematics classes. Secondly, about

25% of the respondents thought that the assistance from the lecturers was not always guaranteed. It is also worth stating that 50% of the students believed that the lecturers communicated with them in a manner that motivated learners to put more effort into mathematics tasks. The constant communication with the students led to the development of positive relationships that facilitated the learning process.

Effective Classroom Organization

The final topic that was addressed during the survey was the effective classroom organization process. Table 5 below shows the views of the students regarding how their lecturers organized the class to promote learning.

Table 5. Students perception towards an effective class organization

No.	Statement	Always	Sometimes	Seldom	Never
17.	The lecturer arises students' enthusiasm so then, not only the learning process becomes seamless but also creates a good social-emotional atmosphere during the learning process	60%	20%	20%	-
18.	The lecturer divides the students into a group so the learning activity become more effective	70%	20%	10%	-
19.	The lecturer gives a suitable assignment to each group in the class	70%	20%	10%	-

Based on the results obtained during the survey, it is evident that the students had a positive perception of the lecturer from an effective class organization point of view. About 70% of students thought the lecturer always created a group that consisted of several students to make the learning process more effective, as well as to give the students a suitable assignment for each group. Another 29% thought that the lecturers rarely assigned group work and suitable assignments that would enable them to understand mathematics concepts. When it comes to creating enthusiasm and a good social-emotional atmosphere, about 60% of students agreed that the lecturer successfully created that condition, with only 20% of students thought the opposite way.

V. DISCUSSION

Effective education relates to the extent to which learning institutions achieve the set short-term and long-term educational objectives. Results from previous studies have shown that teachers have a significant role to play when it comes to shaping education and ensuring that students achieve their full potential [3; 17]. When the teachers play their roles effectively, then learners will be able to acquire knowledge and perform at optimal levels. Effective education also relates to the way teachers manage their classrooms. Overall, classroom management revolves around the use of principles and strategies that will lead to the creation of a conducive environment that will enable students to achieve their full potential. Furthermore, it relates to the actions that the teachers undertake to facilitate socio-emotional and emotional learning. In some instances, the teacher must develop a positive working relationship

with the students and support them so that they achieve learning goals. Thus, classroom management is considered to be a preventive approach that educators use to ensure that challenges such as disruptive behaviors are not experienced. In some cases, however, it may be important to use reactive methods such as punishing students when they misbehave. In all cases, the overall goal is to closely manage the behavior of the students and create an environment that will lead to the realization of educational goals.

One of the areas that were addressed in the present study was the subject of the class arrangement. The results of the study show that the students had a positive perception regarding the attempts by their lecturers to arrange the classrooms. Furthermore, the respondents believed that the teachers strived to organize the class in a manner that would promote learning and better performance. Previous studies have shown that teachers need to be trained in optimal ways of arranging their classrooms [23; 65; 67]. Furthermore, research shows that the methods utilized by lecturers to organize classes may significantly affect the learning process and determine how students behave in classes. In this regard, the present study agrees with the outcomes of the previous research that has highlighted the importance of class arrangement. Furthermore, it shows that students are also concerned about the methods that lecturers adopt when it comes to planning classroom activities.

Discipline enforcement in the classroom is a subject that has been explored widely in previous research. Furthermore, researchers have strived to investigate the different interventions that educators used to ensure that their students behave in the right way. In this study, the students believed that the lecturers used methods such as reprimanding those who misbehaved to ensure that there were minimal disruptions in classes. When students are punished for wrongdoings, the teacher believes that they will avoid such actions in the future not to be reprimanded [2; 21]. However, it is also imperative that the teacher carefully assesses the impact of the different discipline enforcement methods on the academic performance of their students. The primary goal is to use strategies that will promote learning and ensure that the class is well managed.

The results of this study further reveal that the student's behavior control was an important classroom management method. From time to time, students may engage in activities that may affect the learning process. Furthermore, previous research shows that misbehavior in the classroom can impact the instructional time and content in a mathematics classroom [33; 49; 50]. In the long run, such behaviors affect the relationship between the students and the teachers. Moreover, it can adversely influence student achievement. Consequently, there is a need for teachers to use different strategies that will ensure that students behave positively. In the present case, the students believe that their teachers were using appropriate methods to guarantee that all learners acted and behaved desirably during mathematics classrooms.

Communication is an important part of the learning process. It enables teachers to pass different messages to students during mathematics classrooms. Research shows that mathematics is a technical subject that entails mastering different concepts that some students may find to be complex [11; 53; 68]. Therefore, the teacher is expected to communicate with the students and explain new concepts to the learners [19; 25]. In the present study, the students believed that their teachers were making an effort to communicate with learners. The process entailed allowing the students to ask questions about the concepts that they do not understand in class. The finding supports previous research results that show that when students are allowed to ask questions and seek clarification, they can understand concepts that they previously found to be technical and complex [29; 59; 70]. In this sense, the present study

highlights the significance of developing effective communication channels during mathematics lessons.

The final area of interest in the current study was the subject of a class organization. Previous studies have shown that classroom organization is one of the strategies that teachers could use when managing their classes [1; 34]. The process enabled teachers to carefully and closely control activities in the class and ensure that students remained focused throughout the lesson. From this study, it is evident that the majority of the students believed that their lecturers were successful in organizing the mathematics classes. Furthermore, the students thought that the teachers were using different assignment forms and types that would promote the learning of mathematics. The results add to the existing body of evidence that emphasizes the importance of class organization. Thus, teachers should strive to carefully plan their classes and assist the students to succeed in mathematics.

VI. CONCLUSION

Classroom management is an important component of the education process. It can affect the extent to which students will succeed in their academic undertakings. The current study was done to determine the views of students regarding the way their teachers managed their mathematics classes. The results show that students had a positive perception toward the classroom management conducted by mathematics teachers at Universitas Muhammadiyah Purwokerto. The highest perception is on the indicator of controlling the students' behavior during the lesson, with more than 80% of the students perceiving that the teachers are always successful in mathematics class management.

Recommendations

Mathematics is an important subject that applies to different fields, including engineering and chemistry. Furthermore, the understanding of math is critical as it will affect the way students engage in different activities that require calculations. Therefore, attempts are always made to ensure that the students acquire skills that will enable them to succeed in the subject. The current study was done to determine the perception of students about the way their mathematics teachers managed their classes. From the results, it is apparent that most students believed that their teachers were successful in managing the mathematics classes. From the results, it is recommended that teachers should be trained on different classroom management methods, including class organization, discipline enforcement, communication, behavior control, and class arrangement. Secondly, further studies are required to determine how each of these classroom management methods affect the academic performance of students in mathematics classes.

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