

APPROACHES IN DESIGNING EFFECTIVE CLASSROOM MANAGEMENT SYSTEM: A COMPARATIVE STUDY

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Abstract

The research is intended to determine the best approach to managing classrooms. There are discussions regarding the comparison of approaches that have proven effective in designing effective classroom management. Student achievement could not be separated from a successful classroom management system. The learning environment in the class is based on how well teachers build effective classroom management systems. It leads to the students' well-being in the learning process. In order to achieve a successful classroom management system, teachers tend to apply different approaches. There are some studies that deal with the application of these approaches in the process of creating such an effective classroom management system. Two of them are the behavior modification approach and the analytical pluralistic approach. This research is completed by using quantitative approach. The findings lead to the conclusion that certain approaches have proven better through this experimental research. At the end of the research, readers might benefit by taking the result of this research as a reference in their daily teaching.

Keywords: *analytical pluralistic approach; behavior modification approach; classroom management approach; comparative study; learning approach*

1. Introduction

A classroom management system is important for the learning process. One significant element that contributes to a successful teacher, regardless of his or her profound content knowledge of his or her subject, is classroom management skills. The teacher, as the manager who manages the classroom, has the most important role among anyone in the class and, at the same time, has the most crucial role in determining the students' learning outcome. A teacher's happiness can affect the classroom climate and, therefore, affect students. Moreover, the teacher's psychological influence on students has been linked to student achievement in various effectiveness studies. A teacher cannot be a good manager if he is not in a good mood. Therefore, a good teacher must be able to maintain his own mood and stay happy when dealing with students in the class. This matter can affect the teacher's services to the students. It can lead to the quality of respect that

leads to caring that the students should receive from the teacher. Furthermore, the result of the student's achievement can be affected based on this quality.

Teachers' role in conducting a successful classroom management system is fundamental to producing successful outcomes for the students' learning process. Effective teachers listen to the students' arguments, help and/or indicate to them how to resolve their problems, and are willing to talk about their personal lives and experiences, respecting confidentiality issues. In short, a good teacher at least must know the relationship that the students create in order to enhance their learning process; the teacher must know that love is one key to the student's success in learning; creating a supportive and warm classroom climate tends to be more effective with all students; being intentionally aware of student cultures outside the school; always believing that each student has a right to a caring and competent teacher; respecting confidentiality issues when dealing with students; and valuing care and learning as important qualities for educating students to their full potential.

In such a successful classroom management system, there are some recommended approaches. This research focuses on discussing two approaches that are effective in conducting a successful classroom management system. The first approach is the behavior modification approach. The most prevalent reason for early childhood mental health referrals is externalizing behavior issues such as violence, disobedience, inattention, hyperactivity, and impulsivity. Externalizing behavior problems, in addition to having a highly stable and persistent course, are associated with a developmental trajectory of psychosocial impairment, including an increased risk for later antisocial behavior, substance use disorders, peer rejection, and poor academic outcomes (Graziano & Hart, 2016).

This approach has been used by teachers worldwide and has proven effective in conducting a successful classroom management system. Some research results show that this approach is highly recommended for conducting a successful classroom management system. The research entitled *Implementation of Behavior Modification Techniques in Overcoming Mal-adaptive Behavior of Children with Special Needs* (Rapisa & Kusumastuti, 2022) shows that the behavior modification approach is often used regarding its function in creating an atmosphere that can enhance the learning process. The result of the research also shows that the behavior modification approach works well not only in exclusive learning but also in inclusive learning that deals with students with special needs.

In line with this research, a research entitled *Improving Student Learning Achievement through a Behavior Modification Approach* (Gunawan et al., 2018) shows that the behavior modification approach can be used to improve students' learning achievement. The results showed the level of students' achievement through the behavior modification approach included in the category quite well. It is proven by the significant improvement in the student's achievement in every cycle of the research. From those research results, it can be concluded that the behavior modification approach is suitable and appropriate for conducting successful classroom management.

Another approach that is also believed to be useful in conducting a successful classroom management system, as discussed in this research, is an analytical pluralistic approach. Pluralistic developed as an alternative to monism and refers to the notion that a number of valid responses or answers can be found to significant questions and that diverse things are bound to assist numerous individuals throughout various periods in time. It means that this approach is not limited to a specific definition or method, but rather to see the

students' needs and values and then set up one or more approaches to be combined in order to achieve a successful classroom management system.

This is an approach that can be considered in conducting a successful classroom management system. The analytical pluralistic approach is an approach usually applied in the field of psychology. This kind of approach significantly correlates with the field of education, specifically pedagogical skills, which are a skill that teachers must have. The research entitled *Everyday Hyphens: Exploring Youth Identities with Methodological and Analytic Pluralism* (Katsiaficas et al., 2011) shows that the analytical pluralistic approach helps in determining the needs of the subject and then provides the researcher with opportunities to create a solution for the problem.

In line with the research above, research entitled *Utilizing Methodological Pluralistic to Develop Theory: Of Models, Mermaids, and Methods: The Role of Analytical Pluralistic in Understanding Student Learning in Science* (Taber, 2008) shows a significant effect of the use of the analytical pluralistic approach in supporting learning. The present chapter illustrates such 'analytical pluralism' by applying three 'analytical lenses' ('modeling mentality', 'learning impediments', and 'student ontologies') to illuminate data from research into student understanding of the orbital model of atoms and molecules. The three 'lenses' focus on different features of the data in order to offer possible explanations for student learning difficulties and recommendations for improving teaching (Taber, 2008).

Concerning the behavior modification approach and the analytical pluralistic approach that have been proven by some research to have a significant impact on the student's learning outcome by creating successful classroom management, this research interest has gone through the specific question of which of these behavior modification approaches and the analytical pluralistic approach could give better significance to the creation of successful classroom management, which affects the student's learning outcome. This question leads the findings of this research to the finding of the best approach to creating successful classroom management and, at the same time, the best approach that has a significant effect on the student's learning outcome. Hopefully, this research's revelation of new facts about a better approach to classroom management could be used by teachers in their daily teaching processes.

2. Literature Review

2.1 Behavior Modification Approach

Behavior modification is an idea to try and decrease or increase a specific type of behavior or reaction. This might be very technical; however, we often do this as it is the daily basis of our lives (Vijayalakshmi, 2019). We unconsciously apply behavior modification, whether for our own sake or sometimes for others. Some people might do behavior modification in certain contexts, such as family gatherings, friendship contexts, formal situations, party purposes, educational purposes, and so on, although in some cases, it might drive us to positivity or sometimes negativity.

Moving from the idea above, it is important to understand more about behavior modification in order to avoid such negativity. Moving from the basic approach of behavior modification, this technique has already been invented in many fields of study. As in medicine, intervention is usually undertaken to treat a patient's condition by changing their feelings through behavior modification. In such interventions, face-to-face treatments are

common as they might have a great influence on feelings and behavior modification. However, in some cases, it leads to a high running cost and a high rate of patient attrition. Thus, the doctors sometimes loses the opportunity to provide intervention.

In the field of psychology study, behavior modification supports the idea that behavior change is an effective technique in learning psychology, but it is also used in the context of education by teachers, lecturers, and parents. One of its main advantages is that it could be observed and is more easily applied in various aspects of research. Psychology could not be separated from any other field of study. It has its own portion in each field of study. As in education, teachers and lecturers rely most of their work on the application of psychological aspects to their teaching and learning processes in almost all aspects. Behavior modification itself is one of the techniques usually used by teachers in their teaching and learning processes. In the case of a class teacher facing his students with different problems, the teacher might modify the students' behavior by giving pieces of advice and suggestions that might make the students change their behavior to please the teacher.

By understanding the urgency of the application of the behavior modification approach, this research is meant to enrich readers' knowledge of what the behavior modification approach is and how it helps teachers in their daily work of teaching. Behavior modification, which is currently developing in the psychology of behaviorism, is inseparable from the influence of Skinner and Pavlov, who are the pioneers of behavioral psychology. Behavior modification is a blend of behavioral psychology and cognitive psychology in order to make this study more successful, efficient, and adaptable for use in research. Behavior modification has now entered the educational arena, and instructors may utilize it as an option in dealing with students' psychological issues in the classroom.

One idea that might inspire teachers to apply this unique approach is that if a behavior never occurs, then it is not actually in the person's repertoire (Meiza et al., 2018). From this idea, we might think that since every person must have his own behavior, this unique approach could be used for everyone with suitable and fit procedures. Most importantly, the behavior modification approach enables us to modify ourselves to be better.

2.2 Analytical Pluralistic Approach

In an early stage, analytical research is applied as one of the types of research. Nowadays, there are improvements in some types of research that could be used as techniques and approaches. One of them is the analytical pluralistic approach. Understanding its effectiveness, it is transformed and used in the field of education, where it works very well. Traditionally, pluralistic approaches to research have been frowned upon by several authors. They have written about the so-called "paradigm wars" between quantitative and qualitative purists (Strydom & Fourie-Malherbe, 2019).

Pluralistic, as a basis for psychological theory and practice, was first introduced as a philosophical viewpoint by William James in his 1909 lectures, *A Pluralistic Universe* (Bella, 2012). James argues that if an absolute singular truth underpins a theory, this would mean the theory is not changed or enhanced. As all theories are constantly evolving and changing, he conclude that the monist idea that there is a single truth that could not be supported (Pearson, 2019).

The ethical justification for the pluralistic approach is to work toward a humanistic, respectful agenda in which clients would be highly valued and respected. Pluralistic itself is

divided into some fields, which are methodological pluralistic, analytical pluralistic (Clarke et al., 2015), and dialectical pluralistic. They all adopted the view that human experience was multi-dimensional and multi-ontological, that its exploration might be better served by combining methods to address the research question in many ways, and that by embracing the differences that different paradigms brought, the complexities of human experience and interaction could be better understood (Shaw & Frost, 2015).

Analytical pluralism starts from the position that different forms of knowledge produced through diverse methods of analysis might be viewed as complementary, rather than mutually exclusive, as each could reflect a different aspect of the phenomenon of interest (Shaw & Frost, 2015). Analytical methods, therefore, provides tools that enable researchers to attend to different things in the data, by combining analyses that examines the data in a variety of ways. Analytical pluralism has the capacity to produce a richer understanding of phenomena and avoids reductionism.

By applying several analyses, researchers may be able to study the various dimensions of events without being constrained by a single viewpoint. Additionally, it enables researchers to get the most interpretive value possible from the available data. As for teachers, analytical pluralistic enables teachers to combine some approaches in dealing with students' ineffectiveness in learning through the application of analytical pluralistic in a learning approach.

2.3 Classroom Management

Teachers and students are required to perform appropriately in order to design learning experiences that are effective. Additionally, teachers are supposed to be aware of when to rearrange the seating for the kids. The expectation for the pupils is that they would be aware of when they could ask questions and when they should not. Most essentially, instructors, who are in charge of running the classroom, must be able to control any sounds that could arise while the teaching and learning process is in progress.

Many researchers have argued that in these circumstances, the school might become unsafe. Disruptive student behavior could negatively affect both teachers and the students in the school milieu. On the other hand, students might interrupt lessons or even make it impossible to continue, and on the other side, teachers might feel 'burned out' or forced to leave the profession.

Rules and procedures for general classroom behavior deal with the broad aspects of respect and courtesy as well as more specific ones, such as listening to the teacher or to students who are speaking and being in the designated seat when class begins. In some classrooms, teachers involve students in creating broad class norms for conduct, strengthening their buy-in and responsibility awareness across the broader atmosphere in the classroom.

Teachers' beliefs, practices, and attitudes are most important for understanding and improving educational processes. They are closely linked to teachers' strategies in dealing with challenges in their teaching and learning process with students and generally to their well-being, and they shape students' learning environments and influence students' motivation and achievement. Furthermore, they are expected to mediate the effects of job-related policies such as changes in curricula for teachers' initial education or professional development on students' learning.

Concerning the control of developing such a successful classroom management system, instructors must be able to ensure the beneficial influence of good classroom management on the achievement of high learning outcomes by students. Teachers' ability to manage classrooms and deal with students' behavior is critical to achieving high learning outcomes. Behavior management might establish the environmental context of learning, which might possibly produce good instruction. Highly effective instruction might not completely guarantee the elimination of behavioral problems in the classroom. However, it might enhance the success of the classroom management system.

3. Research Method

This research was conducted through quantitative research. Quantitative research is based on the measurement of quantity or amount. It is applicable to phenomena that can be expressed in terms of quantity (Kothari, 2004). The research approach was experimental. An experimental approach was characterized by much greater control over the research environment, and in this case, some variables were manipulated to observe their effect on other variables (Kothari, 2004). This research was applied in specific experimental research with the first design of a completely randomized design, namely a two-group simple randomized design. In a two-group simple randomized design, first of all, the population was defined, and then from the population, a sample was selected randomly. Further, the requirement of this design was random selection from the population, randomly assigned to the experimental and control groups (Kothari, 2004). However, this research tried to find a comparison between the two groups. For this reason, there was no control group. Both groups were experiments. The design of the experiment that was applied was the two-tailed method. The figure of this design was drawn as follows.

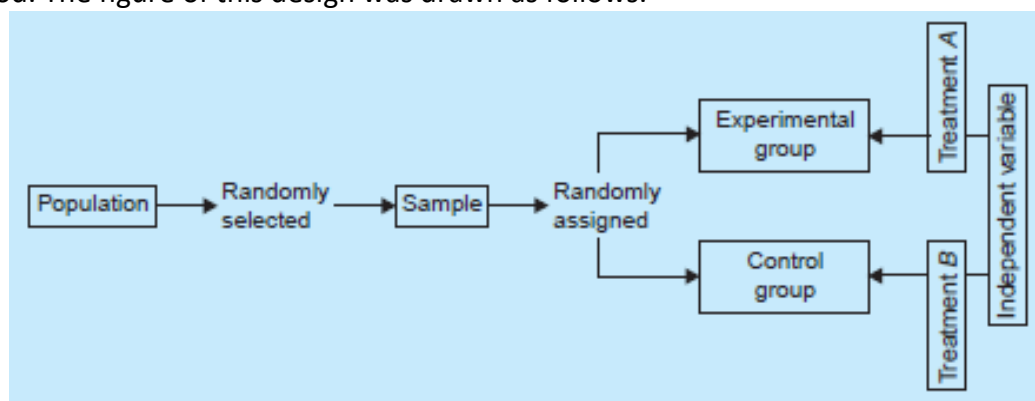


Figure 1. Two Group Simple Randomized Design

The population of this research was all of the academic students in the fourth semester at Universitas Katolik Santo Thomas. There were 280 students in the population of this study. The next step was taking the sample. Sampling was the indispensable technique of behavioral research, the research work could not be undertaken without using sampling. The study of the total population was not possible, and it was also impracticable. The practical limitations—cost, time, and other factors that were usually operative in the situation—stood in the way of studying the total population. The concept of sampling had been introduced with a view to making the research findings economical and accurate (Singh, 2006).

This research chose simple random sampling as the sampling method. Simple random sampling is one in which each element of the population has an equal and independent chance of being included in the sample, i.e., a sample selected by the randomization method is called a simple random sample," and this technique is called "simple random sampling (Singh, 2006). In order to avoid errors in sampling, this research examined the magnitude of random sampling errors as they affected the sample statistics by applying the following formula:

$$\bar{x} = \frac{\sum f_i x_i}{\sum f_i}$$

From the analysis, it was found out that the samples for this research were 70 students, which were grouped into two groups. Each group consisted of 35 samples. The samples from each group got different treatments. One group was taught by applying a behavior modification approach, and the other was taught by applying an analytical pluralistic approach. Further, these groups were analyzed to define the comparison of successful classroom management through their learning outcomes.

The research instrument that had been used in this research was a test. The test that was used in this research was a multiple choice test that aimed to determine the students' ability in reading comprehension. The test consisted of 30 items with four possible choices. The instruction for the test was, "Answer the questions by choosing the best answer based on the reading passage given".

In order to maintain the reliability of the test items, this research conducted a reliability test. Pearson product-moment was used to measure the coefficient correlation by applying the following formula: In defining the hypothesis of the research, this research applied the following hypothesis:

$$H_0 : \mu = \mu_{H_0} \text{ or } H_a : \mu \neq \mu_{H_0} \leftrightarrow \mu > \mu_{H_0} \text{ or } \mu < \mu_{H_0}$$

4. Results and Discussion

The findings of this research were drawn to compare the behavior modification approach and the analytical pluralistic approach to the success of a classroom management system. The data used to compare both approaches was based on the learning outcomes of both independent variables. In accordance with this idea, this research was applied to the samples of both variables with the same lecturer.

The samples for this research were divided into two groups, namely group X and group Y. The first independent sample group, which was the class that the lecturer taught by applying behavior modification, was set as the independent variable X. The second independent sample group, which was the class that the lecturer taught by applying the analytical pluralistic approach, was set as the independent variable Y.

In this research, the lecturer distributed the same teaching material to the samples in groups x and y. The topics of the lesson were also the same. The length of the teaching and learning process was also the same. The only difference was in the approach used in each group. This was to make sure that there was no other variable besides the approach used that could affect the variables, so that these two variables were independent based on their own approaches.

Before the teaching and learning process began, this research had already analyzed and made sure that the samples were completely homogenized based on the pretest done

to the samples by applying the magnitude of random sampling error. The analysis below proved the significance magnitude of random sampling error at a value of 90%, and the value of deviation at 6,74 equal to z got the confidence level equal to 0.08120. From this analysis, it can be concluded that the samples used in this research were homogeneous. The analysis was shown from the data below.

Range	Frequency	x_i	$f_i x_i$	$x_i - \bar{x}$	$(x_i - \bar{x})^2$	$f_i(x_i - \bar{x})^2$
63-67	7	65	455	-12	144	1008
68-72	8	70	560	-7	49	392
73-77	23	75	1725	-2	4	92
78-82	14	80	1120	3	9	126
83-87	14	85	1190	8	64	896
88-92	4	90	360	13	169	676
Total	70	465	5410	3	439	3190

Table 1. Significance magnitude of random sampling error (pre-test)

$$\bar{x} = \frac{\sum f_i x_i}{\sum f_i}$$

$$\bar{x} = \frac{5410}{70}$$

$$\bar{x} = 77$$

then

$$S = \sqrt{\frac{\sum f_i (x_i - \bar{x})^2}{n}}$$

$$= \sqrt{\frac{3190}{70}}$$

$$= \sqrt{45.5} = 6,74$$

After ensuring the homogeneity of the samples and proving the confidence level, this research then started the experiment in both groups. At the end of the semester, this research gathered the data from the samples final test to measure the students' learning outcomes. From the test, the analysis went to the application of the t-test formula to measure the significant impact of both the behavior modification approach and the analytical pluralistic approach to the success of each group of classroom management systems based on the samples' scores in each group's post-test. The result of the analysis was as follows:

Range	Frequency	x_i	$f_i x_i$	$x_i - \bar{x}$	$(x_i - \bar{x})^2$	$f_i(x_i - \bar{x})^2$
63-67	2	65	130	-14	192	384
68-72	4	70	280	-9	78	314
73-77	10	75	750	-4	15	149
78-82	5	80	400	1	1	7
83-87	12	85	1020	6	38	453
88-92	2	90	180	11	124	248
Total	35	465	2760	-8	449	1554

Table 2. Post Test Data of x_1

Range	Frequency	x_i	$f_i x_i$	$x_i - \bar{x}$	$(x_i - \bar{x})^2$	$f_i(x_i - \bar{x})^2$
63-67	0	65	0	-15	234	0
68-72	3	70	210	-10	106	317
73-77	10	75	750	-5	28	279
78-82	8	80	640	0	0	1
83-87	10	85	850	5	22	222
88-92	4	90	360	10	94	377
Total	35	465	2810	-17	484	1197

Table 3. Post Test Data of x_2

$$\begin{aligned}
 S_p &= \sqrt{\frac{(n_1 - 1) s_1^2 + (n_2 - 1) s_2^2}{n_1 + n_2 - 2}} \\
 &= \sqrt{\frac{(35 - 1) 1972 + (35 - 1) 1169}{35 + 35 - 2}} \\
 &= \sqrt{1570,5} \\
 &= 39,63
 \end{aligned}$$

Then

$$\begin{aligned}
 t &= \frac{\bar{x}_1 - \bar{x}_2}{s_p \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} \\
 &= \frac{79 - 80}{39,63 \sqrt{\frac{1}{35} + \frac{1}{35}}} \\
 &= -0,6679
 \end{aligned}$$

The result of the t-test was 0,6679. To measure the significance from the t-table, it was found out that from the calculation of degree of freedom $k = n - 2 = 68$ and at the significance magnitude of 90% confidence level, there were also two tails of error significance at 0.8, which was then converted into 0.10, and the t-table scored 1.671. It showed that the t-table was greater than the t-test. The test statistic T equals -0.6679, which was in the 90% region of acceptance: [-1.6676; 1.6676]. $x_1 - x_2 = -1$ was in the 90% region of acceptance: [-2.4968; 2.4968]. The standard deviation of the difference, S, equals 1.497, which was used to calculate the statistic.

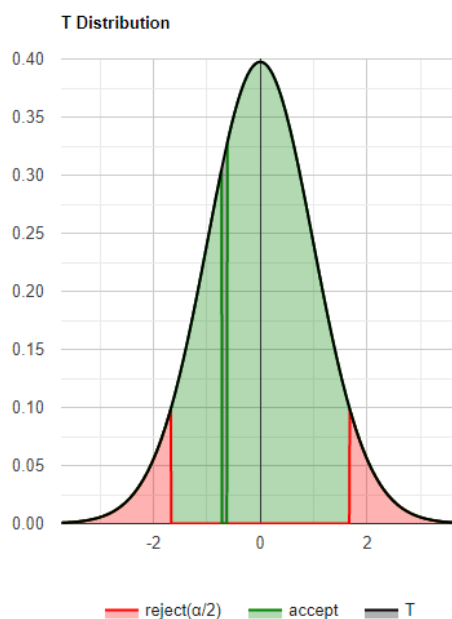


Figure 2. T Distribution

The discussion from the analysis of this research led to the conclusion of $H_a: \mu \neq \mu_{H_0}$ or $\mu < \mu_{H_0}$. From this hypothesis, it was found that the analytical pluralistic approach had a more significant effect on the students' learning outcomes. In short, an analytical pluralistic approach was better than a behavior modification approach in creating a successful classroom management system, as proven by the students learning outcomes.

5. Conclusion

That result is intended to clarify which of the behavior modification approach and the analytical pluralistic approach gives a better result to the students' learning outcome. The result then proves the better approach to creating a successful classroom management system that supports the students' learning outcomes. From the analysis, it is found that an analytical pluralistic approach is better than a behavior modification approach in creating a successful classroom management system and supporting the students' learning outcomes. The result of the post-test shows that the analytical pluralistic approach's statistic level is above the behavior modification approach, as explained in the previous chapter. Although the significant effect is not high, the result proves that an analytical pluralistic approach is a better approach to constructing a successful classroom management system to support the students' learning outcomes.

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