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Classroom Management Effect on Student Concept Knowledge: Case Study on Engineering Students

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ABSTRACT: The aim of this research is to see how classroom management affects concept knowledge at engineering mechanics subject to students majoring in Mechanical Engineering Education, Universitas Negeri Makassar. This research is a study with a total population of 115 students. Sampling used the Slovin quantitative formula and a systematic sampling method. Thus, it gained a sample of 90 students. The data processing process was conducted by SPSS 25 started from the validation, reliability, normality, linearity, and data analysis (hypothesis) test. Data collection used a questionnaire with a Likert scale and an instrument with a dichotomy scale. The results showed that the results of r count 3.80> r table of 1.762 and t count to 3.852> 1.662 t table with a significant level of 5%, with a determination coefficient of 14%, which meant that there was a meaningful effect between class management on knowledge of the concept of engineering mechanics.

Keywords: Classroom management, Concept knowledge, Engineering mechanics

I. Introduction

The education role is essential to create the next generation who expected to realize the nation's ideals. One of which is to educate the nation's life. By improving the education system, the nation's aspirations realize. Increasing the education quality is reflected by the learning achievement of students. Thus, good quality of education will lead them to improve their learning achievement. In increase, the more optimal learning achievement, an appropriate educational tool, or learning media needed. However, educators in recent times are facing a solemn problem. It is many students experience difficulties in learning due to ineffective classroom management. Then, the material taught is considered complicated. It does not only experienced by students with low abilities but also accomplished by students with average competencies. In addition, highly skilled students also have difficulty understanding the material.

Class management is an activity conducted by educators toward students to create optimal classroom conditions (see, Suharsimi A, 1990; Hamalik O, 1987; Sudirman N, et al, 1991; Hadari N, 1989; and Winataputra, 2003; Hasibuan M, JJ, 2002; Ivor, 1991; and Munif C, 2011),so that the learning process takes place in a conducive and maximum manner according to the expected goals. Learning should be conducted appropriately to achieve learning objectives. Educators can use time and learning resources effectively. Learningeffectivenessmay have a positive effectin learning outcomes. That meaneffective classroom management can be earning point of learning in the classroom. Positive classroom climate construction is essential aims for all educators in gaining the conducive of the school. According to (see, Katharina Sieberer-Nagler, 2016;HM, Ahmad, 2004; and Suharsimi A, 1988)classroom management aimed to give students more opportunities to understand all of the things that a teacher did to arrange students, space, time, and resources for them to learn. In other words, students are expected to perform to their full potential, allowing them to establish excellent behavioural patterns. Educators must be able to cope with unforeseen incidents and use effective classroom management techniques to monitor student behaviour(Hattie 2009; Wubbels et al. 2006, 2015).

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Another factor affecting the success of an effective and efficient learning process is related to educators' subjects. The author raises a concrete sample, for instance, in the matter of issuing mechanics. Why is the engineering mechanics? In the learning process, students experience many problems, and there are many thinking stigmas of students to tend to hate this subject. It is due to the lesson is considered difficult to master by them. Students tend to get bored and choose to give up on understanding the subject. Thus, this mindset makes them lazy and turns off their learning motivation, so it causes less than optimal learning outcomes and an understanding level of students. It is clear from the less than the optimal value of the students' learning outcome.

The purpose of class management is every student in the class can work in an orderly manner. Thus, teaching objectives are achieving effectively and efficiently. Regarding the explanation above, in terms of classroom management. It can also view in communicative interactions. The same opinion stated by (JamesD. Allen 1986), student-teacher interactions are at the core of classroom management. It means that an educator should regulate any conditions that occur in the classroom when learning takes place, so two-way communication is created, i.e., between educators and students, vice versa. Thus, the teaching and learning process occurs directly. It aims to facilitate easily as well as relieves the educator's task. Besides, an active classroom environment for students to achieve their classroom goals is an essential feature affecting students' viewpoints on classroom management(see Munif C, 2011; Gore & Parkes, 2007; Brophy, 2006; Kounin, 1970) stated that in their role as a class manager (learning manager), educators should manage the class as the setting conducive to learning. It is a feature of the school atmosphere that requires organization. This atmosphere is controlled and monitored to ensure that learning practices are geared toward educational objectives. Supervision of the learning environment also determines the extent to which a territory becomes a great learning environment. A friendly atmosphere is a challenging one. It motivates students for learning, gives them a sense of security, and a sense of accomplishment when they achieve their objectives. Furthermore, (Abraham, A & Charles, A 2017) said that this study's significance to classroom experience is learning how to handlea classroom is that one of an essential quality instruction characteristics. As a result, it is important that teachers, both new and experienced, figure out the best way to handle their classrooms to build a calm environment conducive to quality learning.

To minimize distraction problems in the classroom. Classroom management principles can be using. Thus, educators need to know and master the principles of classroom management. (Bahri, Djamarah, S & Zain, A 2010) stated the principles of classroom management included warm and enthusiastic; the challenge; varies; flexible; emphasis on positive things; and discipline. Furthermore, various approaches in classroom management were described by (HM, Ahmad, R. 2004) as in the following descriptions: 1) power, 2) threats, 3) freedom, 4) prescription, 5) changes in behaviour, 6) socio-emotional, 7) group work, 8) competency approach, 9) process skills approach, 10) environmental approach, 11) contextual approach, and 12) thematic approach. As quoted in his blog (Aandesca, 2015), it can accept class management if the learning objectives maximally achieved. However, it is hard to categorize in detail a specific process as a benchmark for effective classroom management. Each educator and participant have its characteristics, each class has its ideal conditions, and the state of the learning environment has its differences. But in general, effective classroom management has the following elements: 1) icebreaking (educators can break the boredom in the classroom), 2) comfortable classroom atmosphere, 3) good lesson planning, and 4) make a study contract or agreement on rules in the classroom that educators and student approve.

Mastery of understanding concept knowledge is the level of learning outcomes of students. Thus, they can define or explain some or define learning materials using their sentences. Students' capability can explain the concept or principle of a lesson even though the explanation given has a sentence structure that is not the same as the concept given, but the meaning is the same. According to (E. Susilaningsih, et al. 2019), the teaching and learning process not only focuses on the results obtained, but the learning process can also provide a proper understanding that students can apply in their lives. Learning objectives achieved if students understand and comprehend the material obtained during learning.The concept is an abstraction of the characteristics of something that facilitates understanding and communication between students and allows students to think (Ristanto et al., 2018; Rusilowati & Sopyan, 2012) in (Lia Junita Harahap, et al. 2020; Dahar, 2003; Timawati, 2012). Then, Pratiwi (2016) in (Lia Junita Harahap, et al. 2020) argued that the concept interconnects from one construct to another. Thus, simple concepts will support the understanding of more complex ideas. Students can master the whole material. More comprehensive indicators put forward by Bloom in (Suryosubroto, 2009)were remembering (C1), understanding (C2), implementing (C3), analyzing (C4), evaluating (C5), and making (C6). Remembering is the ability in retrievingstored information. Then, understanding is the ability to construct meanings based on their prior knowledge. Implementing is the ability to use a procedure to complete problems or doing assignments. Next, analyzing is the ability to describe the case or object to its elements and determine the relationship among these fundamentals. Evaluating is the ability to make a judgment based on existing criteria and standards. Making an indicator is the ability to combine several factors being unity. Mastery of concepts in learning engineering mechanics of Machinery Engineering

Education Department at Universitas Negeri Makassar is essential; however, abstract concepts make up the bulk of students who find it difficult to understand. The difficulty turns out to be very influential on student achievement.Engineering mechanics/structural statics is an introductory course of technical design studied by mechanical engineering and industrial engineering study programs. Technical mechanics, as engineering mechanics, is the core science field for structuring behavior or machines against the loads acting on them. The learning objective of this course is for students to be able to measure and design simple structures in static engineering mechanics using the basic concepts of engineering mechanics related to force systems, rigid bodies, balance, internal force, and friction.

II. Research framework

1.1. Previous study

Some expert has conducted studies of classroom management. One study is "Classroom Management: what does research tell us?" wrote by (May Britt Postholm, 2013). The findings show that a variety of factors and conditions influence classroom management, including teachers' self-awareness and mindfulness, the multicultural classroom, behavior management, a lack of classroom management knowledge, and understanding of the physical and social context, rules, relationships, and commitment, person-centered versus teacher-centered classroom management, and an ecological perspective. According to the review report, classroom management includes both handling learning processes when an exercise is in progress and promoting calm so students can get back to work.

Another research is "A Meta-Analysis of the Effects of Classroom Management Strategies and Classroom Management Programs on Students' Academic, Behavioral, Emotional, and Motivational Outcomes," wrote by (Hanke Korpershoek, et al, 2016)Except for motivational goods, the findings of this analysis show small but substantial effects (average g = 0.22) on all outcomes. The presence or absence of four types of interventions is coded in the programs: focusing on the teacher, student behavior, students' social-emotional growth, and teacher-student relationships. The interventions' efficacy, especially in terms of social-emotional outcomes, appeared to be aided by a focus on the students' social-emotional growth. Furthermore, we discovered a preliminary finding that teacher-focused interventions benefited students' academic goods. Another classroom management research is written by (Ritu Chandra. 2015) Her study discusses "Classroom Management for Effective Teaching". It must align effective classroom management with instructional goals and activities. Effective class control is achieved by arriving on time and sitting in one's assigned seat, being prepared for a lesson, paying attention, volunteering information, and responding to questions. Accepted behaviors can differ by classroom, and students should develop their strategies for dealing with the various contexts and environments that arise in the classroom. In addition, a report on classroom management was published by(Jasmina Arsenijević, et al., 2018)Jasmine wrote "Classroom management: Label for efficient operation in the study." Teachers must become reflex practitioners who reject the attitude and behavior of researchers, who assess, the effects and impacts of their work, opportunities to improve and professionalization, and saving is to cut off its routine, according to the study.

1.2. Aims

Based on the previous studies that have done. The study of "The Effect of Classroom Management toward Concept Knowledge in Engineering Mechanics Subject at Students of Machinery Engineering Education Department at Universitas Negeri Makassar" has never done yet. As a result, the research question is, "Are there any effects of classroom management on engineering mechanics students at Universitas Negeri Makassar in terms of concept knowledge?"

Engineering mechanics learning should involve students actively developing scientific attitudes, building knowledge and experiences of students and finding their concepts.However, it is deplorable for the engineering mechanics course. Students are not interested in engineering mechanics lessons, even seem to hate it and avoid it. This phenomenon prompted the author to examine whether classroom management's effect on conceptual knowledge in the engineering mechanics course of students majoring in mechanical engineering education, Universitas Negeri Makassar. It is to provide a problem-solving solution to create students to be qualified. The authors do hope the results of this study can answer the educational problems, particularly the classroom management problem that is occurring recently in the Machinery Engineering Education Department of Universitas Negeri Makassar.

III. Method

3.1. Data collection

This analysis is quantitative because it involves a lot of figures, from data collection to data interpretation and the presentation of the findings, which manifested in numbers. This study was carried out at the Faculty of Engineering, Department of Mechanical Engineering Education. Universitas Negeri Makassar 2018/2019. Subjects to this research are students who are active and have graduated from engineering

mechanics subject,Mechanical Engineering Education Department from 2014 to 2017, the Faculty of Engineering, Universitas Negeri Makassar, which has a total population of 115 people, divided into 24 people in 2017, 35 people in 2016, 34 people in 2015, and 22 people in 2014. The variables of this study are class management named independent variables (X). The concept of knowledge of engineering mechanics courses is called the dependent variable (Y). The data collection technique uses a questionnaire instrument with a Likert scale, a knowledge test instrument with a Guttman scale (dichotomy), and a sampling technique that uses the Slovin formula. The sampling method is systematic sampling. This method involves selecting the umpteenth case (serial number) from the population list for sampling (Anwar Hidayat, 2012). The two research instruments go through the process of validity and reliability testing (Icalazmy, 2013) to determine the extent to which the tool can account for its credibility or the level to which the instrument is trusted.

3.2. Data analysis

The data goes through an analysis requirements test in which a Normality and a Linearity Test validate the appropriateness of the two instruments. Then, hypothesis data analysis has used to know the extent of the Effect of the data gained. The data analysis test in question is Descriptive Data Analysis, Simple Linear Regression Test, and T-Test.

IV. Results

The data used in this research came from a study on the Impact of Classroom Management on Concept Awareness of Engineering Mechanics for Students at Makassar State University's Department of Mechanical Engineering. The study prerequisite examination, a summary of the research data, data analysis, and discussion are among the research findings.

4.1. Instrument Test

4.1.1. Validity Test

The validity test aimed to assess the degree of validity of the research instrument's question items. Using a 0.05 appropriate level and a 0.3365 r table, instrument trials performed with 25 respondents. The instrument trial results for the Class Management variable (X) indicate that eight items were declared invalid. The remaining 37 objects were declared valid based on the results of the 45 item statements. Meanwhile, the instrument trial results for the variable (Y) Knowledge of the Concept of Engineering Mechanics topic revealed that 9 of the 30 question items were invalid. The remaining 21 were considered correct after validity checking.

4.1.2. Reliability Test

Reliability testing has been doing on query items that have passed the validity test and have been considered correct. This reliability test aimed to determine the instrument's degree of dependability. The Cronbach Alpha formula had used in the reliability test for the element (X) class management dependent on the level of data obtained from the instrument trial questionnaire.

Table 1
SPSS Reliability Test for Classroom Management Questionnaire

Statistics on Reliability	
Cronbach's Alpha ,740	*N of Items*

The reliable testing results that carrying out on research instruments for class management variables obtained an r-count of 0.740, which were consulting with an r-table of 0.3365, so it could be seeing that the r-count was more significant than the r table (0.740> 0.3365) based on the results obtained. It can be concluding that the classroom management instrument is declared reliable.

Furthermore, the reliability test was carried out for the variable (Y) Concept Knowledge in the engineering mechanics course using the same formula equation.

Table 2
Reliability Reliability Test SPSS Questionnaire Knowledge Test of the Concept of Engineering Mechanics

Statistics on Reliability	
Cronbach's Alpha ,880	N of Items 30

According to the results of reliable testing performed on research instruments for the variable Knowledge of concepts in engineering mechanics, the r count of 0.880 was obtained, which was contrasted to the r-table of

0.3365, reflecting that r-count is larger than the r-table (0.880> 0.3365). The independent learning instrument for welding practice has been deemed accurate according to the outcomes obtained.

4.2. **Data Descriptive Analysis**

The research had conducted with 90 students from the Mechanical Engineering Education Department of the Mechanical Engineering Education Study Program class of 2014, 2015, 2016, and 2017 at the Faculty of Engineering, Universitas Negeri Makassar. In October 2019, data collected by distributing test questions to students directly. The independent variable, Class Management (X), and the dependent variable, engineering mechanics conceptual information, comprised the research results (Y).

This section contains a data description of each variable based on the data obtained. The following data description are the mean, median, mode, standard deviation of each research variable and the frequency distribution of each variable. For each attribute, the following description offers comprehensive data explanations.

4.2.1. Variables in Classroom Management

A statement questionnaire instrument with 37 valid statement items uses to collect data on class management variables. The following table summarizes the results of the class management variable data (X) filled in by the respondent and will be processed using the SPSS program. The Sturges formula (Sugiyono, 2003: 27), which finds in the frequency distribution table of the following class management variables, is used to determine the frequency distribution and frequency distribution of the tendency based on the frequency calculations.Based on these calculations, it can be seeing the frequency distribution class management variables following:

Table 3
Classroom Management Variables Frequency Distribution

No	Interval	Freq.	Cumulative Freq. P	Percentage
1	66-74	7	7	7.78%
2	75-83	3	10	3.33%
3	84-92	8	18	8.89%
4	93-101	11	29	12.22%
5	102--110	14	43	15.56%
6	111--119	34	77	37.78%
7	120--128	12	89	13.33%
8	129--139	1	90	1.11%
Total		**90**		**100%**

According to the respondent's response results, there are 34 respondents in the class intervals 111 - 119, accounting for 38.2 per cent of total respondents. In the interval class 129-139, the minor frequency was as little as one respondent or 1%.

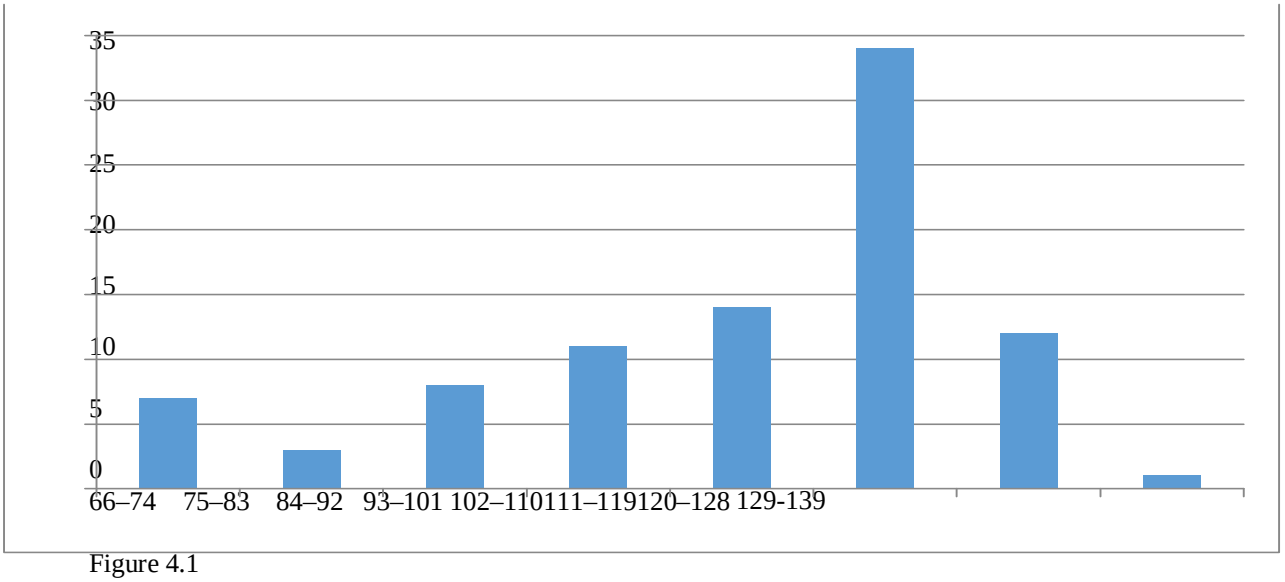


Figure 4.1
Bar Graph of Variable Frequency Distribution (X)

After evaluating the minimum (Xmin) and maximum (Xmax) values for class management variables, i.e., 66 and 139, search for the ideal average value (Mi) using the formula Mi = 1/2 (Xmax + Xmin) and the perfect standard deviation (SDi) using the formula SDi = 1/6. (Xmax-Xmin). Based on the reference above, the class management variable's perfect mean is 103, and the ideal standard deviation of the variables is 12. Table 5 shows the distribution of class management variable patterns using this calculation.

Table 4
Distribution of Classroom Management Variable Trend

No	Interval	Freq.	Cumulative Freq.	Percent	Category
1	<91	13	13	14,4%	Low
2	91 - 115	57	70	63,4%	Moderate
3	>115	20	90	22,2%	High
Total		90		100%	

The majority of the percentage is the frequency distribution of the variable propensity is in the medium range, according to the data in the table above, with 57 respondents (63.4 percent) falling into this category. A minor pattern distribution frequency is recorded by 13 respondents (14.4 percent) in the low category.

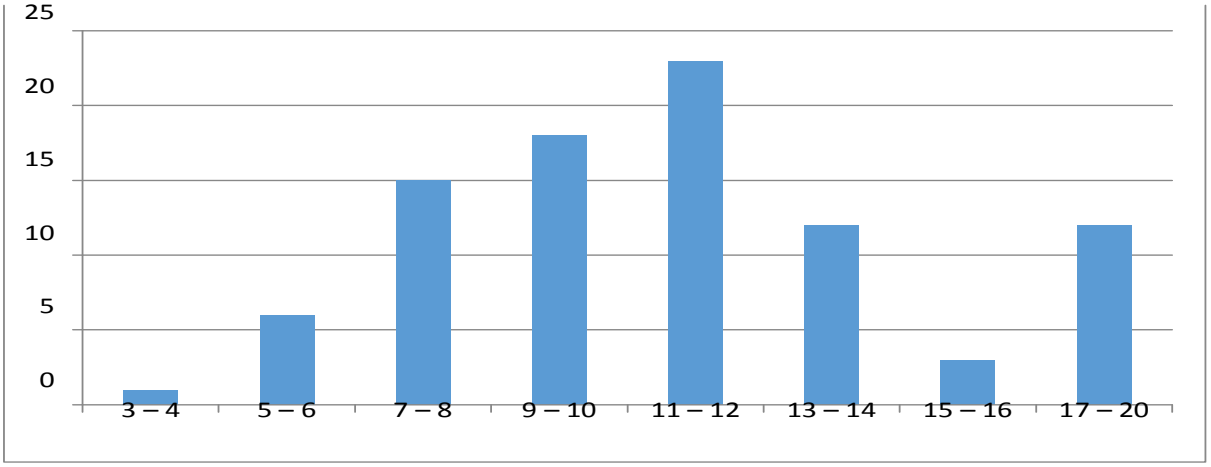
4.2.2. *Knowledge Concept of Engineering Engineering course*

A questionnaire instrument with 21 appropriate test items has been using to collect variable data on class management. The examination object is to assess the degree to which the respondent comprehends the technical mechanics subject matter. The Sturges formula (Sugiyono, 2003: 27), containing the variable frequency distribution table information of the following mechanical principles, is used to measure the frequency distribution and frequency distribution of the tendency corresponding to frequency data and calculations below.Based on these calculations, it can be seeing the frequency distribution class management variables as follows:

Table 5
Knowledge of Engineering Mechanics Concepts through Variable Frequency Distribution

No	Interval	Freq.	Cumulative Freq.	Percentage
1	3--4	1	1	1,1%
2	5--6	6	7	6,7%
3	7--8	15	22	16,7%
4	9--10	18	40	20,0%
5	11--12	23	63	25,6%
6	13--14	12	75	13,3%
7	15--16	3	78	3,3%
8	17--20	12	90	13,3%
Total		90	100%	

Table 5 indicates that most respondents' response scores are in the 11-12 class interval, accounting for 23 of the total respondents (25,6 per cent). The interval class 3-4, 1 respondent, or 1.1 per cent, had the minimum frequency.



Graphic 4.2
Bar Graph of Variable Frequency Distribution (Y)

After knowing the minimum (Xmin) and maximum (Xmax), respectively 3 and 20, searchto the ideal average value (Mi) with the formula Mi = 1/2 (Xmax + Xmin), and finally, find the optimal for the standard deviation (SDi) to the procedure SDi = 1/6 in evaluating the propensity of the variable knowledge of the principle of engineering mechanics (Xmax-Xmin). Based on the reference above, the ideal mean for the variable is 12, and the excellent standard deviation for the variable is 3.Table 8 shows the distribution of the propensity for the variable knowledge of engineering mechanics principles as follows:

Table 6
The Distribution of the Trends in Knowledge Variables of Mechanical Mechanics Concepts

No	Interval	Freq.	Cumulative Freq.	Percent	Category
1	< 9	22	22	24,4 %	Low
2	9 - 15	55	77	61,2 %	Moderate
3	> 15	13	90	14,4 %	High
Total		90		100%	

The data in the table above shows that the majority of the percentage of the frequency distribution of variable tendencies is in the medium category, namely as many as 55 respondents or 61.2% of the total respondents. The rate of the minor trend distribution frequency is 13 respondents or 14.4% in the high category.

The following is a recapitulation of the frequency distribution of the class management variable tendency (X) and the conceptual knowledge of engineering mechanics (Y).

Table 7
Recapitulation of Variable Trend Frequency Distribution

No	Variable	Category			Total
		Low	Moderate	High	
1	Class Management	14,4%	63,4 %	22,2 %	100%
2	Knowledge of Engineering Mechanics Concepts	24,4%	61,2 %	14,4 %	100%

4.3. Analysis of Testing Requirements

The specifications analysis is tested first before the data analysed for hypothesis testing. The Normality Test and Linearity Test have been using as analysis criteria tests in this research.

4.3.1. Test for Normalcy

The aim of the normality test is to determine whether or not the data used in research has a normal distribution. The Kolmogorov-Smirnov method has been conducting in a normality test. If the significance value is greater than or equal to 0.05, the data is said to be regular (Sugiyono, 2010). The results of the normality test conducted with the SPSS software are shown in Table10.

Table 10
Normality Test Results for X and Y Variables

	Unstandardized Residual
Asymp. Sig. (2-tailed).	0, 129

The degree of Sig. 0.129> 0.05 determined by the results of normality testing in Table 4:10 above. It means that the degree of importance is better than 0.05. As a result, all of the variables in this analysis usually distributed.

4.3.2. Linearity Test

The linearity test decides if each independent variable and the dependent variable have a linear relationship. If the significance value is greater than or equal to 0.05, the effect between the independent and dependent variables is linear.

Table 11
Linearity Test Results

No	Influence of Variables	Sig	Description
1	X – Y	0,625	Linier

Based on the linearity test results in Table 11, the effect between the X and Y variables has a significant value of 0.625, which is greater than the probability value of 0.05. According to these results, the dependent variable is influenced by the independent variable over time.

4.4. **Data Analysis**

4.4.1. **Simple Linear Regression**

Basic Linear Regression Analysis is concerned with a linear relationship between one independent variable (X) and the dependent variable (Y). This study aims to find which way the class management variables (X) influence the definition awareness variable in the engineering mechanics course (Y) of students majoring in mechanical engineering education at Universitas Negeri Makassar.

Table 12
Coefficient of Variable X against Y

Summary of the Model

Model	*R*	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*
1,380[a]		,144	,135	3,384

Predictors: (Constant), X

The coefficient of determination (KD), also known as R Square, is 0.144 in the table above, showing how well the regression model has formed by independent variables anddependent variables relationship. The obtained KD value was 14.4 per cent. As a result, the class management variable (X) has a 14.4 per cent contribution impact on the definition information variable in the engineering mechanics course (Y).

4.4.2. T-Test

The partial test, which uses the t-test, is used to assess how often one independent variable influences the dependent variable separately. Decisions have based on the following probability values derived from the results of data analysis using the SPSS parametric statistics program:

Tabel13
T-Test

Coefficientsa

	Model	*Unstandardized Coefficients*		*Standardized Coefficients*	*t*	*Sig.*
		B	Std. Error	Beta		
	(*Constant*)	1,537	2,500		,615.	,540
1	X	,090	,023	,380	3,852	,000

a.*Dependent Variable: Y*

a. H0 is the class management variable (X) in engineering mechanics courses, has a limited impact on the variable concept understanding (Y).
b. Ha is a class management variable (X) that has a slight effect on the variable.

The t-table value for a significant level of 5% df = 88 (db = N - 2 for N = 90) is 1.662, based on the t-table value for a significant level of 5% df = 88 (db = N - 2 for N = 90). The t-count results obtained using SPSS 25, which had a score of 3.852. Ha is accepted and Ho is refused when the t-count reaches the t-table. The t-count of 3.852 is calculated above and compared to the t-table (db = 48), which is 1.662 with a substantial level of 5%. As a consequence of t-count> t-table, Ha is approved, and Ho is refused. In other words, dismissing the null hypothesis (Ho) and supporting the alternative hypothesis (Ha) for evaluating the two variables such that variable X has a meaningful effect on variable Y is inferred. "According to the results of testing this hypothesis, "Class management has a significant impact on theory knowledge of engineering mechanics subject for students majoring in mechanical engineering education at Universitas Negeri Makassar."

V. Discussion

Based on the analysis described above, the results show the r count (0.382> 0.1726) is higher than the r table. In other words, the class management variable (X) has a substantial impactonvariable concept knowledge in engineering mechanics courses (Y) toward students majoring in mechanical engineering education, Universitas Negeri Makassar. With a determination coefficient of 14.4% (rounded to 14%), it has a positive effect. It means the more effective classroom management is, the better student's conceptual knowledge of engineering mechanics subject in the mechanical engineering education department, Universitas Negeri Makassar. Simultaneously, a remaining 85.6% are factors that affect variable Y from other factors, which the researcher does not examine.

The t-test analysis results found a significant effect among the class management variable (X) and the conceptual knowledge variable in the engineering mechanics course (Y). It evidenced by the results of the t-test calculation of 3.852> 1.662 t-table value with 5% significance level, which means that Ha is accepted and Ho rejects. So, the t-test results show that class management has an impact on concept knowledge in the engineering mechanics course of students majoring in mechanical engineering education, Universitas Negeri Makassar. Thus, it concluded that class management affects students' concept of knowledge in engineering mechanics courses. It means that better class management will help students master the concepts of engineering mechanics courses.

VI. Conclusion

Summing up the research results, it is concluded that class management has a positive and important impact on the conceptual awareness of the engineering mechanics topic with a calculated r-value of 0.380> 0.1726 r table price at the 5% significance level (N = 90). It also obtained the value of R Square or the coefficient of determination (KD) of 0.144, so that it interpreted that the class management variable (X) has a contribution effect of 14.4% on the variable Knowledge Concept in the engineering mechanics subject (Y). Next, in the t-test, the result t count is higher than the t table (3.852>1.662), then Ha is accepted, and Ho is rejected. Concerning the data analysis results, it is evident that a strong correlation was found inthe class management on conceptual knowledge in the engineering mechanics subject of students majoring in mechanical engineering education, Universitas Negeri Makassar.

Declaration of competing interest

None.

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