



The Relationship between Social Attitudes and Student Chemistry Learning Outcomes During the Covid-19 Pandemic

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ABSTRACT

Keywords:

Social attitudes,
chemistry learning
outcomes.

This study aims to describe the relationship between social attitudes and student chemistry learning outcomes during the Covid-19 pandemic. This type of ex-post facto quantitative research involved 203 students of class XII science which was determined by using multistage random sampling technique from a total population of 406 students at Madrasah Aliyah Mataram. Social attitude data were obtained from questionnaires and learning outcomes data were obtained from description questions on the colligative properties of solutions. The results of the descriptive analysis showed that the categories for social attitudes and student chemistry learning outcomes were in the moderate category with a percentage of 68,5% and 66%, respectively. Of the seven element of social attitudes, the highest value is found in the element of tolerance and the lowest value is found in the honest element. The results of the analysis show that social attitudes and student chemistry learning outcomes during the Covid-19 pandemic have a positive and significant relationship although it is very low ($r_{xy} = 0,24$). Based on these results, it can be concluded that social attitudes can affect student chemistry learning outcomes during the Covid-19 pandemic in class XII IPA at Madrasah Aliyah Mataram, although the effect is relatively low. It is hoped that these findings will be taken into consideration by schools so that they can take appropriate policies so that student learning outcomes are better.

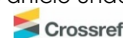


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A. INTRODUCTION

The decline in students' social attitudes is thought to impact the online learning system implemented during the Covid-19 pandemic (Purwanto et al., 2020). Because many schools and campuses are temporarily closed during the pandemic. The Indonesian state makes policies to overcome the problems that are happening by changing the world of education to learning from home or commonly called online learning (online) (Kusumaningrum & Wijayanto, 2020). Based on Circular Letter Number 4 of 2020 concerning the Implementation of Education Policies during the Covid-19 pandemic, the Ministry of Education and Culture urges all educational institutions not to carry out the teaching and learning process directly or face to face but must do it indirectly or remotely (online) (Kemendikbud, 2020). The exploratory study research

conducted by Purwanto et al. (2020) found several impacts of online learning, including students feeling forced to study remotely without adequate facilities and infrastructure at home, with schools being closed for too long, this makes students tired of studying from home. The worst possible impact is the loss of social life among the students. There are many more impacts from studying at home during this pandemic even the effect is not only in the field of education in Indonesia but in several other fields. This greatly affects students' attitudes because before the pandemic they studied as usual at school with teachers face-to-face and supervised directly, but for now they are no longer face-to-face in class, so this can result in a decline in student learning achievement. Therefore, the learning environment must be created as positive as possible so that students have a happy attitude towards learning chemistry so that they can obtain better learning outcomes.

Chemistry is one of the main subjects at the high school level, especially in the science field. According to Subagia (2014), chemistry is one of the subjects that most high school students are not interested in because chemistry is considered a difficult subject, which sometimes makes students not want to study chemistry further (Budiariawan, 2019). Therefore, it is necessary to have a good understanding of chemistry lessons by students. Not only that, students also want to learn chemistry in a fun and easy-to-understand method, so that students not only hear but also understand the correct concepts. So, the learning outcomes obtained by students will be maximized.

Learning outcomes can be interpreted as attitudes, knowledge, and changes in behavior obtained after carrying out the learning process (Rahmadian, 2020). There are two factors that can affect student success in the learning process, namely internal factors and external factors, where internal factors consist of physiological and psychological factors while external factors are the physical environment (Pritami et al., 2014). Social attitudes are included in external factors that can affect student learning outcomes. According to Surahman (2017), humans are not only as individual beings but also as social beings who cannot live alone but need the help of others. In essence, humans as social beings always interact with the surrounding environment so that it can be said that humans have dependencies that need each other. In the interactions carried out there are efforts to achieve common goals such as to improve academic achievement, as well as efforts for self-development such as knowledge, intelligence, talent, attitude, personality, and mentality. The relationship between social attitudes and student learning outcomes is evidenced by previous research conducted by Saraswati et al. (2019) and Zahra et al. (2017) showing that there is a positive and significant relationship and influence between social attitudes on student learning outcomes.

The current pandemic period causes students' social attitudes to decline more than before the pandemic. Based on the results of observations carried out at the Madrasah Aliyah Mataram school, it was found that during the pandemic period in chemistry learning there were students who had a low attitude of responsibility towards their obligations, most students did not respect the teacher when explaining material when online, rarely/embarrassed to ask, truant when online learning, and lying to find excuses to cover up their mistakes such as excuses for not submitting assignments. According to Kodir & Haris (2021), this is due to the lack of direct supervision from the teacher so that it can result in students being out of control. Then with a different student environment, especially during this pandemic, children are locked up at home while playing with their cellphones so that there is less interaction with friends, they don't care about fellow friends, and even if they are given assignments, students can easily imitate from the internet so that students are not honest in doing their assignments. . When students' social

attitudes decrease, learning outcomes will decrease because when students neglect their duties, the learning outcomes obtained will be less good. Based on the description above, the purpose of this study is to describe the relationship between social attitudes and student chemistry learning outcomes during the Covid-19 pandemic at Madrasah Aliyah Mataram. This finding is expected to be considered by schools to be able to take policies related to social attitudes so that student learning outcomes are getting better, it is hoped that students can improve social attitudes for the better because learning outcomes are influenced by several factors, one of which is social attitudes, and teachers can better observe student reactions. During the teaching and learning process.

B. METHODS

This ex-post facto quantitative study aims to describe the relationship between social attitudes and student chemistry learning outcomes during the Covid-19 pandemic. This research was conducted at the Madrasah Aliyah Mataram in January 2022, with a sample of 203 students obtained through the multistage random sampling technique from a total of 406 students of class XII science. Students are spread across 11 classes, so that the determination of the number of samples for each class is used the Slovin formula with an error rate of 5% (Riduwan, 2015) as in Equation (1)

$$n = \frac{N}{N.d^2+1} \quad (1)$$

Description:

n = Sample size

N = Population size

d = Precision Value (0,05)

Social attitude data consists of seven indicators listed as shown in Table 1.

Table 1. Indicators of Social Attitude Questionnaire

No.	Indicators	Description
1.	Honest	In learning students who behave honestly, namely students can tell the truth when asked, do not cheat on their friends' assignments, and are honest in filling attendance.
2.	Discipline	Disciplined students are students who join on time, obey the rules and do or collect assignments in the allotted time.
3.	Responsible	Responsible students are students who carry out individual tasks well and participate in group assignments.
4.	Mutual cooperation	Mutual cooperation in learning is where students perform tasks according to mutual agreement, inviting students to work together to achieve the same goal.
5.	Polite	Polite students will respect elders, don't interrupt at inappropriate times, and borrow things from friends with prior permission.
6.	Tolerance	Students who have tolerance are students who can respect / cooperate with anyone who has a variety of backgrounds, views, and beliefs and does not vilify their friends' shortcomings.
7.	Self-confident	Students who believe in being able to have opinions or do activities without hesitation, never give up, dare to ask and answer questions.

Sumber: (Zurqoni, 2019)

Social attitude questionnaires were collected using a closed questionnaire. Meanwhile, the learning outcomes data were collected through a description test for the colligative properties of the solution. All instruments have been tested for validity and reliability. The data used were then analyzed descriptively using the average value, standard deviation, and percentage. Before testing the hypothesis, first perform a prerequisite test, namely the normality test using the chi square test and the data linearity test. Hypothesis testing uses the Pearson product moment correlation test (Sugiyono, 2017) with the formula contained in Equation (2).

$$r_{xy} = \frac{n\sum XY - (\sum X)(\sum Y)}{\sqrt{\{n\sum X^2 - (\sum X)^2\} \{n\sum Y^2 - (\sum Y)^2\}}} \quad (2)$$

Description:

r_{xy} = Correlation coefficient between X (independent variable) to Y (consideration variable)

n = Sample size

$\sum X$ = Total score X

$\sum Y$ = Total score Y

$\sum XY$ = The number of multiplications between X and Y

After testing the hypothesis, then looking for the criteria for the strength of the relationship between social attitudes and learning outcomes contained as shown in Table 2.

Table 2. Correlation Coefficient Interpretation	
Coefficient Interval	Relationship Level
0,80 - 1,000	Very strong
0,60 - 0,799	Strong
0,40 - 0,599	Medium
0,20 - 0,399	Low
0,00 - 0,199	Very low

Sumber: (Sugiyono, 2017)

After the correlation coefficient is obtained, it is then tested significantly with the t-test with an error rate of 5% (Riduwan, 2020). The formula used is contained in Equation (3).

$$t_{count} = \frac{r_{xy}\sqrt{n-2}}{\sqrt{1-(r_{xy})^2}} \quad (3)$$

Description:

t_{count} = Price number t

r_{xy} = Correlation coefficient between X (independent variable) and Y (dependent variable)

n = Sample size

C. RESULT AND DISCUSSION

The results of the overall description analysis of this study found that the average and standard deviation of the social attitude questionnaire and the test questions of Madrasah Aliyah Mataram students as shown in Table 3.

Table 3. Descriptive Data on Social Attitudes and Learning Outcomes

Variable	Highest Score	Lowest Score	Average	Standard Deviation
Social Attitude	69,118	37,488	55,456	6,382
Learning Outcomes	18	4	10,953	3,158

The results of the analysis showed that the students of Madrasah Aliyah Mataram had sufficient social attitudes and learning outcomes with an average social attitude of 55,456 and learning outcomes of 10,953. The results of the calculation of social attitudes and learning outcomes are mostly found in the medium category with a percentage of 68,5% and 66%, respectively. The average value of social attitude indicators as shown in Table 4.

Table 4. Average Value of Social Attitude Indicator

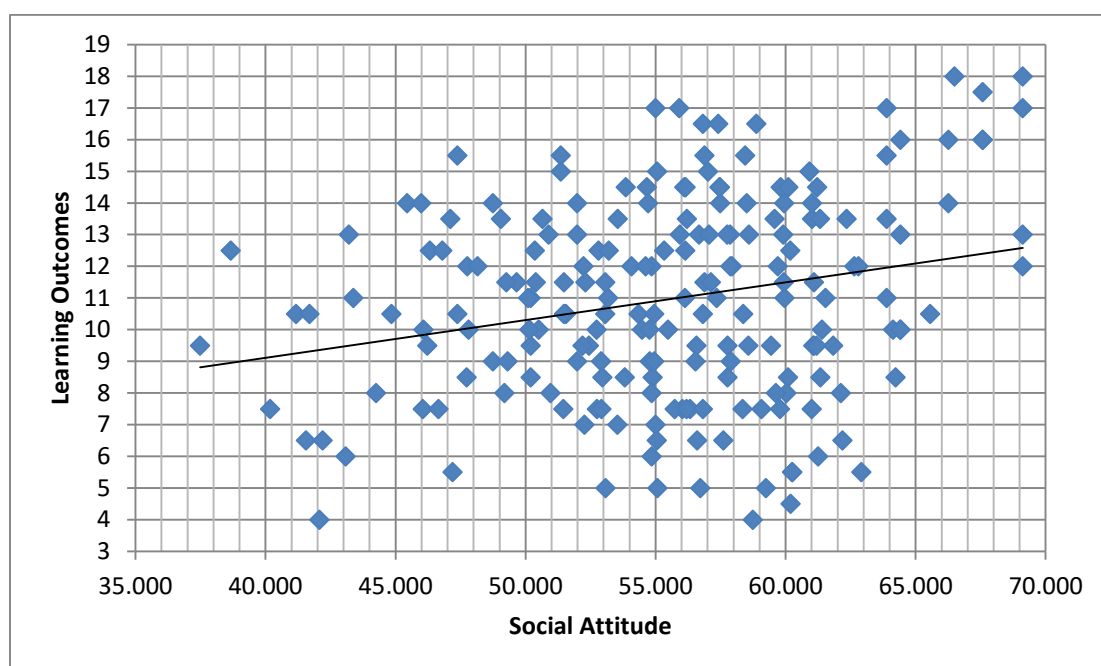
Indicator	Average
Honest	3,177
Mutual cooperation	3,505
Discipline	3,488
Polite	3,256
Tolerance	3,912
Responsible	3,595
Self-confident	3,420

The attitude of tolerance has the best value with an overall average of 3,912. Of all the indicators, the tolerance element is thought to have the most influence on student learning outcomes. Because of the tolerance attitude, students can help each other in terms of learning and respect various opinions regardless of differences in beliefs, backgrounds, and cultures. Research conducted by Febria et al. (2019) states that students' tolerance attitude has a positive influence on improving student learning outcomes, so this tolerance attitude is one of the important factors that affect student learning outcomes. Therefore, tolerance needs to be developed in the school environment and during the learning process. While honest attitude is the lowest value with an average of 3,177. During this pandemic, students' honesty decreases. This is supported by research by Massie & Nababan (2021) which states that the level of honesty of students is getting lower during online learning, where there are many cheating committed by students such as being late in filling out attendance, looking for answers to assignments from the internet, and others. This is because there is no strict control that causes cheating to be considered as a matter of course. Research conducted by Saraswati et al. (2019) states that students' social attitudes are in the moderate category with the lowest indicator, namely student curiosity, so that student curiosity needs to be increased to make it easier to achieve learning achievement. Therefore, students' honesty also needs to be improved to obtain better learning outcomes. This is supported by Riantoni & Surrahman (2020) stating that students who are not honest when doing assignments or exams will definitely affect student learning achievement because in educational institutions, learning achievement is an important indicator to measure the success of the teaching and learning process.

Madrasah Aliyah Mataram is under the auspices of the Ministry of Religion (the ministry of religion) where both schools have a fairly good social attitude and have a relationship with learning outcomes. Meanwhile, schools under the auspices of the Ministry of Education and Culture, from several studies conducted, show that schools under the auspices of the Ministry of

Education and Culture provide a greater relationship between social attitudes and learning outcomes. Research conducted by Saraswati et al. (2019) which states that the role of the teacher in forming positive (positive) social attitudes for students has a great influence. This is supported by Virani et al. research (2016) which shows that social attitudes have a positive and significant impact on the learning process, where good (positive) social attitudes have an important role in student achievement.

The hypothesis testing used is the Pearson Product Moment correlation. Before calculating the hypothesis, the data obtained must be tested for assumptions with normality and linearity tests, where the data collected is normally distributed and linear. The first assumption test is the data normality test which aims to determine whether the data is normally distributed or not. The normality test for social attitude questionnaires and test questions obtained data that were normally distributed. This shows that the results of the calculation of the social attitude questionnaire are $\chi^2_{\text{count}} = 6,922$ while $\chi^2_{\text{table}} = 15,507$ and the results of the calculation of test questions obtained $\chi^2_{\text{count}} = 3,743$ while $\chi^2_{\text{table}} = 14,067$. This shows that the data is normally distributed if $\chi^2_{\text{count}} < \chi^2_{\text{table}}$. The second assumption test is the linearity test which aims to determine whether the two research variables have a linear relationship or not. From the calculation, it is found that the form of the regression relationship of the chemistry learning outcomes on social attitudes at Madrasah Aliyah Mataram is obtained by the following graphic equation, as shown Figure 1.



Picture 1. Regression Line Graph

Based on the regression equation above, it is known that the Y variable is the result of studying chemistry and the X variable is the social attitude. From the equation above, it can be estimated that the change in Y if X is known, which means that if the value of social attitudes (X) increases by 1 point, then the value of learning outcomes (Y) increases by 0,119 and when there is no influence of social attitudes, students' chemistry learning outcomes are 4,331. After looking for the regression equation and then proceeding with linearity calculations, the results of the analysis obtained are the social attitude variable (X) with chemistry learning outcomes (Y) showing the F_{count} coefficient is smaller than F_{table} ($1,504 < 1,534$), it can be concluded that social

attitudes have a linear relationship with the results of studying chemistry. According to Rosa (2015), students' social attitudes can be seen from the way students react or respond to chemistry subjects when the learning process takes place. This social attitude is said to be good when students are positive about chemistry lessons and will consider chemistry as a fun lesson to learn, so that students' chemistry learning outcomes will be better when students' social attitudes are getting better.

The results of hypothesis testing showed that the correlation coefficient value of Madrasah Aliyah Mataram was 0,24 with a social attitude contribution of 5,8% on learning outcomes. The correlation coefficient value shows that the direction of the relationship between social attitudes and chemistry learning outcomes is positive and unidirectional, where there is no minus sign seen in the correlation coefficient value. This means that the better the social attitudes of students, the higher the value of chemistry learning outcomes obtained. The remaining 94,2% contribution is determined by other variables that can affect learning outcomes. Furthermore, the correlation significance test was carried out using the t test which aims to find the meaning of the relationship between social attitude variables and chemistry learning outcomes. From the calculation results, the t_{count} value is 3,505 and the t_{table} value is obtained in the t table with a significant level (α) = 0,05 and dk = 201 of 1,972. It can be seen that the value of $t_{\text{count}} > t_{\text{table}}$, then H_0 is rejected, which means that there is a significant relationship between social attitudes and student chemistry learning outcomes. This is supported by Miarsyah et al. (2016), which states that factors that can affect learning outcomes are one of them social factors, where someone who has good social attitudes in the surrounding environment such as the family environment, community environment, group and school environment. Students who have good social attitudes will have honesty, discipline, responsibility, tolerance, mutual cooperation, courtesy, and self-confidence where these attitudes will lead students to further improve good academic results. Basically, social attitude is the attitude that a person has in interacting and socializing in his environment.

D. CONCLUSION AND SUGGESTIONS

Based on the results of the research and discussion that have been described, it can be concluded that there is a positive and significant relationship between social attitudes and chemistry learning outcomes for students of class XII IPA Madrasah Aliyah Mataram. The overall correlation value obtained is 0,24; meaning that the relationship formed is a positive relationship with a low correlation category. Where the social attitude variable gives an overall contribution to the learning outcomes variable by 5,8%. The remaining 94,2% which did not contribute was determined by other variables not examined in this study.

This study provides a description of the relationship between social attitudes and student chemistry learning outcomes. In the research that has been done, it has a low variable contribution coefficient value. This shows that learning outcomes are not only influenced by social attitudes but are also influenced by other variables. Therefore, it is hoped that in future research, a different research will be conducted to find out other factors that can affect learning outcomes.

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