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Improve Assertiveness Towards Students Questions in The Language of Mathematical Logic

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Abstract: Assertiveness or Assertiveness in the perspective of Education is a domain of social skills among cooperation, responsibility, and self-control. Mathematics is a scary subject, this is one that relates to their assumptions. This fear causes math anxiety. When learning mathematics, it also includes math anxiety in the students' mathematical logic material. Mathematics anxiety in mathematical logic material is a form of students emotional response in mathematics subjects, listening to teachers when discussing mathematics lessons and solving student problems in mathematics, students' psychological conditions related to mathematics anxiety in students' mathematical logic materials and the effect of assertive attitudes towards mathematics anxiety in mathematics. students' mathematical logic material, which has an increase of about 2.65 from the average score obtained at Senior High Schools in Cirebon City

Keywords: Assertive Attitude; Mathematical Anxiety; Mathematical Logic Material

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INTRODUCTION

The importance of education in today's life, because education is the initial action that makes changes for people who achieve it, even this education has a process, where in the process people who achieve it will gain experience, knowledge and behavior, one of the important factors In education, a person can solve problems in his life.[1][2] In his own hope, this education can produce appropriate personality values for educators so that they can be useful for society in the future. In a book Aswasalukin argues about Education where, Education is a process that moves in everyday life that makes strength for physical development, soul such as reason, soul and will and morality.

Mathematics lessons have a very important and meaningful contribution to the nation for a better future, of course this mathematics education which has been studied from elementary school to university has been stated in the 1945 Constitution of the Republic of Indonesia which reads "to educate the life of the nation" , where in that sentence the Republic of Indonesia really prioritizes education. But in the process students have anxiety in mathematics subjects for example in mathematical logic material, of course mathematics anxiety has a negative impact on students in managing their mathematical knowledge and ability in mathematics.[3][4]

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Assertiveness is an act of giving and refusing requests, discussing problems, negotiating and arguing. Another opinion also suggests that an assertive attitude can be called the ability to express a desire or what is felt and thought but does not take the rights of others in the sense of maintaining the feelings of others.[5][6] This attitude is very important for students to be able to have self-confidence even though there are deficiencies in the process of learning mathematics, most students are worried about the results or understanding that are less than perfect for them, causing anxiety attitudes towards mathematics lessons, in previous research the behavior of assertive attitudes has a significant effect on student anxiety [7][8]. Assertive behavior can also be called the ability to give an opinion on equality in human relations, which is to behave in accordance with the wishes of the individual himself, with the aim of defending interests without having to feel anxious, with a sense of honesty and comfort in expressing an action without forgetting rights. other people's rights.[9][10].

Researchers conducted research by distributing a closed questionnaire type questionnaire to several X grade high school students in Cirebon City[11], 19 students were taken which we then divided into two groups, namely the experimental group and the control group, then we treated 10 students from 19 the student by providing an understanding of assertiveness and mathematical logic material.

Researchers have taken several relevant papers with the title of increasing assertive behavior towards students' anxiety in mathematical logic. In [12][13] the paper that has been studied by Veny Wulan Suci and Yoppy Wahyu Purnomo shows the results of hypothesis testing carried out by statistical test of Sperman's rho correlation with a p-value of 0.05 which means a significant coefficient and a negative correlation coefficient of -0.376. In [14] another study where the research was carried out at the State Junior High School 1 Sungai Raya in the 2016/2017 academic year which was attended by 38 students showed the results of 19 students experiencing severe math anxiety levels and the rest of them experiencing moderate math anxiety levels which were tested with Pythagorean material. The [15] paper on assertive behavior conducted in Banyu Biru through Group Guidance Services which has been researched by Putri Setyowati and Yuri Dwikurnaningsih has obtained results from testing the hypothesis that there is an increase in assertive behavior experienced by students after they receive guidance from the researcher. In [16] the next relevant paper, when viewed from the results, shows 28.6% of the effective efficacy of assertive behavior, this study aims to determine how much assertiveness is with self-efficacy towards students in the research that has been carried out, with the results obtained shows in the existing relationship that there is a relationship between self-efficacy attitudes with assertiveness [17]. The next paper has a significance value of 0.001 using a paired sample t-test, in other words the bibliocounseling technique to students makes a significance value on the ability to behave assertively or the technique is effective in improving students' assertive behavior.

METHODS

The method in this research is a closed questionnaire type of research. The research used two parts, namely the experimental group and the control group. Where the experimental group is a group that is given group guidance in order to increase the influence of students' assertiveness. While the control group is a group that is not given any treatment.[15]

The experimental procedures obtained were: (1) homogeneity test for both groups; (2) giving pretest to both groups by knowing the influence of students' assertive behavior before

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the experiment; (3) making posttest to both groups to determine the level of influence of students' assertiveness after the experiment. The model used in this study can be seen in the following table:

Group : Posttest Treatment Posttest

K1	X	K2
KI	-	K2

Figure 1 Experimental Design

The explanation of the picture is as follows: (1) K1 is the initial test/pretest; (2) K2 is the final test / protest; (3) X treatment / Treatment (student guidance).

Variables in a study can be referred to as what form the researcher has applied to a lesson obtained from an information about the research in his teleti. In this study, there are two variables, namely the independent variable where the effect is assertiveness and the dependent variable is the anxiety of logic mathematics subjects. The research has the results with the subjects of 19 high school students in class X in the city of Cirebon taken as subjects through the results of data from the distribution of closed questionnaires obtained by 4 students who have low assertiveness. Then grouped into 2, 1 group consisting of 9 to 10 students as the control group and 1 group as the experimental group.

The data collection technique is the scale, namely the assertive behavior scale with a total of 13 items and the anxiety scale in mathematics subjects with 6 question items in the form of favorable and unfavorable. In the data analysis technique to determine the differences in assertive behavior and mathematical anxiety from the experimental group and the control group using the Mann Whitney test technique and for processing it uses the computer program SPSS (Statistical for Social Science) version 25 for windows.

Make sure that work can be repeated according to the details provided. It contains technical information of the study presented clearly. Therefore, readers can conduct research based on the techniques presented. Materials and equipment specifications are necessary. Approaches or procedures of study together with data analysis methods must be presented.

RESULT AND DISCUSSION

Research Time

Pre-test

Pre-test which was held on October 19, 2021, with the aim of knowing the initial state of students and being used as an experiment for homogeneity of all groups. Based on the results of the homogeneity test, the values obtained from the control and experimental groups are Asymp. Sig. (2-tailed) 1,000 > 0.050 can be concluded with the value that there is no significant difference between the experimental group and the control group, with the results that the group of both can be used as a trial.

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Table 1 Pre-Test Homogeneity Test experimental group and control group with Mann Whitney

Ranks				
	GROUP	N	Mean Rank	Sum of Ranks
PRETEST	EXPERIMENT	10	10.00	100.00
	CONTROL	9	10.00	90.00
	Total	19		

Test Statisticsa	
	PRETEST
Mann-Whitney U	45.000
Wilcoxon W	90.000
Z	.000
Asymp. Sig. (2-tailed)	1.000
Exact Sig. [2*(1-tailed Sig.)]	1.000b

Treatment

Treatment is given by communicating with the implementation that has been agreed between the researcher and the experimental group. Treatment is providing input or understanding which is done once. The service material for the group is in accordance with the indicators of assertiveness and anxiety towards mathematics subjects in mathematical logic material, namely: (1) The dimension of promoting equality in human relations; (2) Dimensions of Acting according to one's own interests; (3) The self-defense dimension; (4) Dimensions of expressing feelings honestly; (5) Dimensions of defending personal rights; (6) The dimension of respecting the rights of others. Meanwhile, in mathematics anxiety, the influential attitudes include physical and psychological anxiety.

Final Test (Post-Test)

Post-Test was given to the experimental group and the control group using a scale of assertive behavior and anxiety towards mathematics subjects. The purpose of the post-test was to obtain the level of assertiveness influence on students' logical mathematics anxiety after the experimental group was given treatment.

Hypothesis testing

In this study, the hypothesis that the researcher proposes is "There is a significant increase in the effect of assertiveness on logic mathematics anxiety in high school in Cirebon City" or in other words providing guidance by providing understanding reaping the results of increasing the influence of assertiveness in class X SMA students in Cirebon City.

Results of research

After the experimental group was given the group understanding treatment once, the researcher conducted a post-test to the control group. The results of the post-test were then processed using the Mann-Whitney Test analysis technique to determine the differences between the two groups as presented in table 2.

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Table 2 Test Past-test Experimental group and control group with Mann-Whitney.

Ranks				
	GROUP	N	Mean Rank	Sum of Ranks
PRETEST	EXPERIMENT	10	12.65	126.50
	CONTROL	9	7.06	63.50
	Total	19		

Test Statistics	
	PRETEST
Mann-Whitney U	18.500
Wilcoxon W	63.500
Z	-2.176
Asymp. Sig. (2-tailed)	.030
Exact Sig. [2*(1-tailed Sig.)]	.028b

The results from table 2 can be seen that the mean rank of the pretest of the experimental group is 10.00 while the mean rank of the post-test is 12.65. There is an increase in the average score of the experimental group by 2.65. The results of the different test of the experimental group and the control group using Mann Whitney resulted in a value of Z = -2.176 and Asymp was obtained. Sig (2-tailed) 0.030 < 0.050 with the conclusion that there was a significant difference between the control group and the experimental group[18].

Students' assertiveness can be improved, because assertive behavior is not brought from birth but has certain factors such as the environment, in mathematical logic anxiety most students feel unable to complete or fully understand what is given by the teacher about mathematical logic material so that in the process students feel insecure and tend to follow their friends' opinions, this can be changed as long as students understand all forms of material and can form an assertive attitude.[19][20].

These results indicate that the influence caused can be different from the understanding of the material being taught perfectly and the influence of students' assertiveness in order to achieve the desired goals, based on the results of observations made to the experimental group after providing services to understand the material and their assertive attitude can be better. Confident, understand the material well, and full of enthusiasm during the learning process.

CONCLUSION

Mathematics anxiety in mathematical logic material is a form of students' emotional response in mathematics subjects, listening to teachers when discussing mathematics lessons and solving student problems in mathematics, students' psychological conditions related to mathematics anxiety in students' mathematical logic materials and the effect of assertive attitudes towards mathematics anxiety in mathematics. students' mathematical

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