



## Effectiveness of Prototype Curriculum Policy in Mathematics Learning

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### Abstract

This research involved one class as an experimental class to determine the effectiveness of the Prototype Curriculum Policy in Mathematics Learning at SMP Negeri 2 Kajen, Pekalongan Regency. The research design used was a group pretest-posttest design. The main problem in this research is whether the prototype curriculum policy is effectively implemented in mathematics learning for class VII students at SMP Negeri 2 Kajen. This type of research is pre-experimental research. The research results show that: (1) The average score of students' mathematics learning outcomes before the prototype curriculum was implemented in mathematics learning was 22.8 and was deficient. These results showed that 25 students, or 100%, had yet to reach the KKM, which meant that classical completion had not been achieved. (2) The average score of students' mathematics learning outcomes after implementing the mathematics learning prototype curriculum is 85 and is in the high category. These results found that 24 out of 25 students, or 96% achieved the KKM, which means that classical completion was achieved. (3) The average percentage of student activity is 83%, if it is linked to the student activity criteria, namely 75%, then student activity reaches the active criteria. (4) The student response questionnaire showed that 97% responded positively to mathematics learning. From the research results above, it is concluded that the prototype curriculum policy for mathematics learning is effectively implemented at SMP Negeri 2 Kajen, Pekalongan Regency.

**Keywords:** *Policy, Prototype Curriculum, Mathematics Learning*

### A. Introduction

In the New Paradigm Curriculum, elementary school students can complete at least two project assessments in one school year (Faiz et al., 2022). Meanwhile, middle and high school/vocational school students can complete at least three project assessments in one academic year. This aims to strengthen the Pancasila Student Profile. Hopefully, this new curriculum is not a temporary curriculum implemented because of the new government and ministers. Still, it is a sustainable curriculum that favors developing character as a national identity. This is the primary path the New Paradigm Curriculum needs to go towards.

Implementing the prototype curriculum for learning recovery received positive support from many parties. Students and educators must be able to adapt to current developments and catch up in learning (Miftahuddin: 2020). As Charles Darwin said, it is not the strongest who wins. It is not the greatest who survives but the adaptable who survives. SMP Negeri 2 Kajen needs adaptation over a longer period to absorb this policy well. One of the characteristics of a

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prototype curriculum is that it implements project-based learning. To support character development by the Pancasila student profile. In the prototype curriculum, schools are given the freedom and independence to provide learning projects that are relevant and close to the school environment. Project-based learning is considered important for student character development. Because it allows students to learn through experience (experiential learning).

Regarding project-based learning, it is hoped that the prototype curriculum can be adjusted to the Mathematics Subject material in Middle School and other Subjects with at least 3 materials or Basic Competencies. The freedom given to educators in implementing this curriculum can be utilized well. To create learning that focuses on the needs of each region and pays attention to local wisdom (Corey: 1986). The project method includes the active learning methods and strategies used by SMP Negeri 2 Kajen to increase understanding of concepts in Mathematics learning and increase student activity and self-confidence. Each learning method has advantages and disadvantages. Students understand better what they are learning. Usually, students immediately practice what they learn (Majid: 2014). This is what is called the project method. The project method is excellent. Because students don't just get material, the project method will always sharpen students' brains in carrying out the experiments they are testing.

This method is usually used in science subjects, such as Biology, Physics, Chemistry, and so on. The steps of the project method applied at SMP Negeri 2 Kajen are as follows: The teacher raises several problems. Students cannot be expected to be able to do it themselves without the teacher's initiative. Students choose the desired problem topic. Proposed project work can begin when the teacher proposes several problems that students can solve through project work. The teacher forms small groups and determines the steps for completion. The teacher prepares a work program, to arrange the program regularly (Nasution: 1986). Teachers need to be involved in time management. Because students are still tied to school hours. Teachers search for necessary resources. The continuity of a project requires special facilities according to the problem being solved. The teacher conducts a general investigation. For the project to take place, a special room is needed where students work—equipped with a wide table and chairs. Students collect data that is considered essential.

With the project method students can solve the problems they face according to the part of the work that must be completed each; students complete their responsibilities completely; students complete part of the work together with other children, and students complete part of the work creatively which has an impact on increasing student learning outcomes (Restu, et al: 2022). In the prototype curriculum, there are opportunities provided by curriculum thinkers to provide freedom for innovation for teachers. Teachers must take advantage of this opportunity. The education law is fixed, the basis of education is fixed, the results are fixed. But the strategy has changed. So the strategy depends on the gun, namely, depending on the teacher.

Considering the background of the problem that has been explained, the problem formulation in this research is How Effective is the Prototype Curriculum Policy in Mathematics Learning at SMP Negeri 2 Kajen, Pekalongan Regency? What are the Obstacles to the Prototype Curriculum Policy in Mathematics Learning at SMP Negeri 2 Kajen, Pekalongan Regency? The novelty of this research has not been found in previous studies, namely that the research location is usually in high schools, but in this research, the focus is more on junior high schools. There is no analysis regarding the effectiveness of the prototype curriculum in mathematics learning in class VII. The following is some previous and relevant research to be used as a reference, such as Studying curriculum orientation in teachers' daily practice: A goal system approach written by K. Zweeris et al Contains a system of goals indicating the teacher's tendencies, but the results

are not constant. It is an instrument that reflects teachers' intuitive understanding of the goals underlying their daily teaching practice.

The next article is curriculum design written by Nienke M. Nieveen et al. Ideally, the curriculum design process produces artifacts that are coherent and shared by various stakeholders. Curriculum design occurs at multiple levels of the education system. This is a systematic process and also a very socio-political process. Approaches to curriculum design and the main actors in the curriculum design process are discussed. An article entitled STEM Curriculum Development and Implementation, written by Gillian H. Roehrig et al. contains details and examples of large integrated STEM research projects in the United States. The paper concludes with a call for future research regarding implementing STEM curricula, including the need for new observation protocols.

## B. Methods

This type of research is Pre-Experiment, which is a type of research that only involves one class as an experimental class that is carried out without a comparison group to find out the effectiveness of the prototype curriculum policy in mathematics learning at SMP Negeri 2 Kajen, Pekalongan Regency. Research Variables and Research Design.

In this research, the research variable is the effectiveness of mathematics learning, which includes aspects such as student mathematics learning outcomes, student activities in the learning process, and student responses to learning, with the treatment given being the implementation of a prototype curriculum (Azwar: 2007). In this study, a one-group pretest-posttest design was used. This design involves one Group being given a pretest ( $O_1$ ), issued a treatment ( $X$ ), and given a posttest ( $O_2$ ). The Research scheme is as follows:

**Table 1.** Model *One-Group Pretest-Posttest*

$O_1$	$X$	$O_2$
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- $O_1$  = Pretest Value (before treatment)  
 $X$  = *Treatment*.  
 $O_2$  = Posttest value (after treatment), (Ansori, 2020)

The operational definitions of variables in this research are: The student mathematics learning outcomes referred to in this research are the scores obtained by students from tests given before the mathematics learning process (pretest) and after the mathematics learning process (posttest). Classical completion is achieved if at least 80% of students in the class have achieved the lowest score, according to the KKM. The student activities in question are student activities or the active process of students in carrying out a learning activity by implementing a prototype curriculum in mathematics learning for class VII students at SMP Negeri 2 Kajen. The criteria for the success of student activities in this research are shown by at least 75% of students being actively involved in the learning process, both physical and mental activities. The student response is the student's opinion regarding mathematics learning in class VII students at SMP Negeri 2 Kajen. The criteria set in this research were a minimum of 75% of students who responded positively to the number of aspects asked.

**C. Findings and Discussion**

The results and analysis of research data were based on data obtained from research activities, regarding student learning outcomes through implementing a prototype curriculum in mathematics learning implemented in class VII of SMP Negeri 2 Kajen. This research was carried out over six meetings, where, at the first meeting, a pretest was given to determine the student's initial abilities, and a posttest was given after the treatment. The scores obtained by class VII students at SMP Negeri 2 Kajen before learning mathematics by implementing the prototype curriculum can be statistically seen in the table.

**Table 2.** Pretest Statistics of Student Mathematics Learning Outcomes Before Prototype Curriculum Implementation

Statistics	Mark
Sample Size	25,00
Ideal Score	100,00
Range	30,00
Lowest Score	5,00
Highest Score	35,00
Average	22,8
Standard Deviation	8,5
Variance	73,08

If the student's scores are grouped into five categories, a frequency distribution is obtained as in table.

**Table 3.** Pretest Mathematics Learning Outcome Distribution and Percentages Before Curriculum Prototype

No	Score Range	Category	Frequency	Percentage (%)
1	$0 \leq x < 65$	Very Low	25	100
2	$65 \leq x < 75$	Low	0	0
3	$75 \leq x < 85$	Currently	0	0
4	$85 \leq x < 90$	High	0	0
5	$90 \leq x \leq 100$	Very High	0	0

The table above shows that all class VII students of SMP Negeri 2 Kajen, Pekalongan Regency, who took the test before learning mathematics by implementing the prototype curriculum, obtained relatively low scores. Furthermore, if students' scores before participating in Mathematics learning by implementing the prototype curriculum are categorized based on individual completeness criteria (Hamalik: 2003), then the categories obtained are shown in Table 4.

**Table 4.** Pretest Assessment of Mathematics Learning Outcomes Before Cooperative Learning Model Implementation

Score	Category	Frequency	Percentage (%)
$x < 75$	Incomplete	25	100
$x \geq 75$	Complete	0	0

Table 4 above shows that all students in class VII of State Middle Schools 2 Kajen Pekalongan Regency who took the test before learning mathematics by implementing the prototype curriculum received scores below the KKM and did not meet classical completion (Muhaimin: 2009).

After learning mathematics with the prototype curriculum was applied to class VII students at SMP Negeri 2 Kajen, Pekalongan Regency, a test was then carried out to measure students' mastery of the material that had been taught. Student learning outcomes test scores (posttest) were then analyzed descriptively. Statistically, the test scores for class VII students at SMP Negeri 2 Kajen, Pekalongan Regency, after participating in mathematics learning by implementing the prototype curriculum, can be seen in the table.

**Table 5.** Posttest Statistics of Student Mathematics Learning Outcomes After Prototype Curriculum Implementation

Statistics	Mark
Sample Size	25,00
Ideal Score	100,00
Range	30,00
Lowest Score	70,00
Highest Score	100,00
Average	85
Standard Deviation	7,63
Variance	58,33

Suppose the learning outcomes (posttest) scores of class VII students at SMP Negeri 2 Kajen, Pekalongan Regency after participating in mathematics learning using the Questions Student Have type cooperative learning model are grouped into five categories (Muhaimin: 2006). In that case, they will look like in the table.

**Table 5.** Posttest Distribution and Percentage of Student Math Learning Outcomes After Prototype Curriculum

No	Score Range	Category	Frequency	Percentage (%)
1	$0 \leq x < 65$	Very Low	0	0
2	$65 \leq x < 75$	Low	1	4
3	$75 \leq x < 85$	Currently	9	36
4	$85 \leq x < 90$	High	6	24
5	$90 \leq x \leq 100$	Very High	9	36

The table above show that of the 25 class VII students of SMP Negeri 2 Kajen, Pekalongan Regency, who took the test after participating in mathematics learning using the prototype curriculum, 1 person or 4% of them, got a low score, 9 people or 36% of them got a medium score. 6 people, or 24% of them got high scores, and 9 people, or 36%, got very high scores. (Sagala: 2003). Next, the learning outcomes (posttest) scores of Class VII State Middle School students 2 Kajen, after participating in mathematics learning by implementing a prototype curriculum categorized based on individual completeness criteria, results will be obtained as shown in the table.

**Table 6.** Assessment of Student Math Learning Outcomes After Prototype Curriculum

Score	Category	Frequency	Percentage (%)
$x < 75$	Incomplete	1	4
$x \geq 75$	Complete	24	96

Table 6 above shows that of the 25 people or 100% of class VII students at SMP Negeri 2 Kajen, Pekalongan Regency, who took the test after participating in mathematics learning using the prototype curriculum, 24 people, or 96% of them got a score above the KKM and 1 person or 4% some of them scored below the KKM. Student learning outcomes can be improved by comparing pretest and posttest scores (Sherly & Sihombing: 2020). Pretest scores and posttest scores for class VII students at SMP Negeri 2 Kajen Pekalongan Regency in mathematics learning by implementing the prototype curriculum can be seen statistically increasing the learning outcomes of class VII students of SMP Negeri 2 Kajen Pekalongan Regency in mathematics learning by implementing the prototype curriculum as outlined in table.

**Table 7.** Improved Student Math Learning Outcomes After Prototype Curriculum Implementation

Statistics	Mark
Sample Size	25,00
Range	0,33
Lowest Score	0,67
Highest Score	1,00
Average	0,80
Standard Deviation	0,094
Variance	0,009

If the learning outcomes of class VII students at SMP Negeri 2 Kajen, Pekalongan Regency increase after participating in mathematics learning by implementing the prototype curriculum, results will be obtained as shown in Table 4.8 below.

**Table 8.** Frequency Distribution of Improved Learning Outcomes After Prototype Curriculum Mathematics Learning

Score Range	Category	Frequency	Percentage (%)
$g < 0,3$	Low	0	0
$0,3 \leq g < 0,7$	Currently	4	16
$g \geq 0,7$	High	21	84

Table 8 show that after participating in mathematics learning by implementing the prototype curriculum, the average increase in student learning outcomes was 0.80. Meanwhile, of the 25 people, or 100% of students who took the test, 4 people, or 16% of them experienced moderate improvement, and 21 people, or 84% of them, experienced a high increase in learning. Thus, it can be said that student learning outcomes are effective after participating in mathematics learning by implementing the prototype curriculum.

During the mathematics learning process by implementing the prototype curriculum, observations were made of student activities. Student activities are intended to see student enthusiasm in learning activities (Evi: 2022). Data obtained through observing student activities was then analyzed descriptively. The results of the analysis of student activity observation data can be seen in the student activity table.

it was explained that student activity is said to be good if the average percentage of student activity reaches a minimum of 75%. The student activity table above shows that the average percentage of student activity at the first meeting was 82%, at the second meeting, 82.85%. At the third meeting, 80.85%, and at the fourth meeting 86.85%. Thus, the average percentage of student activity for all meetings is 83.14%, which meets the specified criteria. This means that student activities in learning mathematics by implementing the prototype curriculum are what is expected.

Student response questionnaires were given to students after participating in mathematics learning by implementing the prototype curriculum. Student response questionnaires are given to determine whether students are happy, like, or agree with learning activities, learning tools, and how the teacher teaches (Azizy: 2002). The results of data analysis collected through student response questionnaires can be seen in the table above.

The student response table in the table above shows that out of 25 people or 100% of students who filled out the student response questionnaire after participating in mathematics learning by implementing the prototype curriculum, around 97.78% of students gave positive responses. If the average is referred to the criteria. It has been explained in Chapter III that student responses are said to be good if they are minimal 75% of students gave positive responses to several aspects, so it can be concluded that students' responses to mathematics learning activities by implementing the prototype curriculum can be said to be good.

The results of calculations using SPSS version 22 obtained the following results; The normality test of student learning outcomes before and after participating in mathematics learning by implementing a prototype curriculum was carried out based on Shapiro Wilk. The calculation results before learning (pretest) show a value of PValue = 0.085 at a significance level of  $\alpha = 0.05$  and after learning (posttest) at a value of PValue = 0.360 at a significance level of  $\alpha = 0.05$ . If the value obtained is referred to the criteria described in,  $H_0$  is accepted if  $P\text{-Value} \geq \alpha$ ; otherwise,  $H_0$  is rejected if  $P\text{-Value} < \alpha$ .

So it can be seen that before learning (pretest), the PV value =  $0.085 > \alpha = 0.05$  and after learning (posttest) PV value =  $0.360 > \alpha = 0.05$ . Thus, it can be concluded that the student learning outcomes after participating in mathematics learning using the Questions Students Have cooperative learning model come from a normally distributed population. After carrying out a normality test, it was concluded that the data on student learning outcomes (posttest) after participating in mathematics learning with implementing a prototype curriculum comes from a normally distributed population (Yudi & Amilatusholiha: 2022). Thus hypothesis testing can be done with a one-sample t-test. The results of calculating the value of learning outcomes (posttest) and improvement in learning outcomes (gain) and classical completeness are each described as follows:

One-sample t-test calculations with the help of SPSS version 22 show a value of PValue = 0.000. Meanwhile, the criteria described are that  $H_1$  is accepted if  $P\text{Value} > \alpha$  and  $H_0$  is rejected if  $P\text{Value} \leq \alpha$ , where  $\alpha = 5\%$ . For  $H_0: \mu \leq 74.9$  against  $H_1: \mu > 74.9$ . If  $P\text{Value} < \alpha$  means that the student's mathematics learning results have reached a KKM of 75. Suppose the results obtained from the calculations are referred to predetermined criteria. In that case, it can be concluded that the students' mathematics learning results after following mathematics learning by implementing the prototype curriculum have reached the KKM with the assumption that  $P\text{Value} = 0.000 < \alpha = 0.05$ .

Shows a value of PValue = 0.000. Meanwhile, the criteria described are that  $H_0$  is accepted if  $P\text{Value} > \alpha$  and  $H_0$  is rejected if  $P\text{Value} \leq \alpha$ , where  $\alpha = 5\%$  for  $H_0: \mu \leq 0.29$  against  $H_1: \mu > 0.29$ . If  $P\text{Value} < \alpha$  means that the student's mathematics learning results have reached a KKM

of 75. Suppose the results obtained from the calculations are referred to predetermined criteria. In that case, it can be concluded that the students' mathematics learning results after following mathematics learning by implementing the prototype curriculum have reached the KKM with the assumption that  $P\text{Value} = 0.000 < \alpha = 0.05$ . This means that  $H_0$  is rejected and  $H_1$  is accepted, namely that the normalized gain in student learning outcomes reaches 0.30, which is in the high category.

Testing of students' classical completeness is carried out using test proportion. Test the proportion formulated with the following hypothesis: If  $z > z_{(0.5-\alpha)}$  it means mathematics learning outcomes students reached 80%. For the proportion test, use the significance level 5% obtained  $Z_{\text{count}} = 1.822 > Z_{\text{tabel}} = 1.645$ , meaning  $Z_{\text{count}} > Z_{\text{tabel}}$  then  $H_0$  is rejected or  $H_1$  is accepted, meaning that the proportion of students who reach the minimum completeness criteria is more than 79.9% of all students who took the test. Based on the description above, it can be seen that the proportion of students who reach the 75 completion criteria (KKM) is more than 79.9%. So, it can be concluded that inferentially the students' mathematics learning outcomes after being taught by implementing the prototype curriculum meet the effectiveness criteria.

Constraints from the prototype curriculum policy in mathematics learning in Kajen 2 Public Middle School, Pekalongan Regency Some obstacles that may be encountered include: The successful implementation of the prototype curriculum is influenced by several key factors. Firstly, teacher readiness plays a crucial role. Teachers must be adequately trained and provided with the necessary resources to deliver the curriculum effectively. Without proper preparation, executing the curriculum in a way that maximizes student learning can be challenging. Secondly, the availability of resources in schools is essential. The lack of sufficient resources can hinder the implementation of the prototype curriculum, preventing students from accessing the materials and tools they need for effective learning. Thirdly, student adjustment is another critical factor. If students are not accustomed to new teaching methods or if the material is not presented in a way that resonates with them, it can negatively impact their understanding and interest in mathematics. Ensuring that students can adapt to the changes in teaching methods is crucial. Fourth, time limitations can be a significant constraint. When time is restricted, teachers may feel rushed and unable to delve deeply into the curriculum, affecting the depth of understanding among students. Lastly, evaluating and assessing student progress are vital for monitoring their development. However, suppose teachers are not trained in effective assessment methods or face obstacles in implementing them. In that case, accurate evaluation may be compromised, making it challenging to gauge the success of the prototype curriculum (Wahyudi, 2019).

The results of the descriptive analysis of students' scores before taking part in mathematics learning by implementing the prototype curriculum described in the previous section show (1) the average pretest score obtained by students was 22.8, much lower than the score that might be achieved, namely 100, and also not yet complete. Classically, (2) the highest score obtained by students is 35, and (3) of the 25 people or 100% of students who took the test, not a single one reached the specified minimum completeness criteria (KKM), namely 75 on an assessment scale of 100. Thus it can be concluded that the students' scores before taking part in mathematics learning using the prototype curriculum were relatively low and did not meet the individual completeness criteria or classical completeness criteria.

Class VII students at SMP Negeri 2 Kajen have never received learning using a prototype curriculum before. Of course, this is the main factor in not maximizing the grades obtained by

students. It should be understood that even though the scores obtained by students on the pretest have not reached the specified KKM, it is not a problem in this research. This is because students' pretest scores are only used to compare student learning outcomes after participating in mathematics learning by implementing the curriculum prototype. The results of the descriptive analysis of student learning outcomes (posttest) after participating in mathematics learning by implementing the prototype curriculum described in the previous section show that (1) the average posttest score obtained by students is 85. The average score obtained is close to the highest score possible, namely 100; (2) the highest score obtained by students is 100 and the lowest score is 70, and (3) Of the 25 people or 100% of students who took the test, 1 person or 4% of students got a score below the specified KKM. However, 24 people, or 96% of students, had obtained scores above the specified KKM. Thus, it can be concluded that the student learning outcomes after participating in mathematics learning by implementing the prototype curriculum have met the classical completeness criteria and individual completeness criteria.

The results of the descriptive analysis of the increase in student learning outcomes (gain) after participating in mathematics learning by implementing the prototype curriculum described in the previous section show (1) the average increase in student learning outcomes is 0.80 or in the high category, and (2) the highest increase in learning outcomes achieved by students is one and the lowest increase is 0.67. Thus it can be concluded that learning mathematics by implementing the curriculum prototype can increase the learning outcomes of class VII students at SMP Negeri 2 Kajen. The results of descriptive analysis of student activity data while participating in mathematics learning by implementing the prototype curriculum described in the previous section show that out of 25 people, or 100% of students who took part in learning activities, 82% of the number of active students in the first meeting of learning activities, 82.85% of the number of active students in the second meeting of learning activities, 80.85% of the number of active students in the third meeting of learning activities, and 86, 85% of the number of active students at the fourth meeting. Thus, student activity for each session has reached the expected criteria, namely 75% of the total number of students actively involved in learning activities.

The results of descriptive analysis of student response data after participating in mathematics learning by implementing the prototype curriculum described in the previous section show that of the 25 students, or 100% of students who filled out the student response questionnaire, 97.78% of them gave positive responses to mathematics learning using the cooperative learning model. Type of Questions Students Have. Thus, the percentage of students who gave positive responses was above the predetermined percentage criteria, namely, 75% of the total number of students who filled out the student response questionnaire gave positive responses.

The results of the inferential analysis show that the pretest and posttest data have fulfilled the normality test, which is a prerequisite test before carrying out hypothesis testing. The pretest and posttest data have been distributed normally because the values  $p > \alpha = 0.05$ . Because the data is normally distributed, it meets the criteria for The t-test used to test the research hypothesis. In testing the hypothesis for individual completeness using the right-hand t one sample test, it was found that in the pretest  $t \text{ count} < t \text{ table} = -10.376 < 1.71$ , which means  $H_0$  is accepted and  $H_1$  is rejected so that individual completeness has not been achieved. However, in the posttest, it has been achieved. This is shown  $t \text{ count} > t \text{ table} = 2.610 > 1.71$ , which means  $H_0$  is rejected, and  $H_1$  is accepted. The completeness of student learning before being taught through learning by applying the classical prototype curriculum was  $> 79.9\%$  using the proportion test.

The value obtained was  $Z \text{ count} < Z \text{ table} = -10.736 < 1.645$ , meaning that student learning outcomes in learning mathematics by applying the prototype curriculum were incomplete. However, this was completed classically after being taught by applying the prototype curriculum. It can be seen from the proportion test, which shows  $Z \text{ count} > Z \text{ table} = 2.610 > 1.645$ . Next, in testing the normalized gain, which aims to.

To find out how much improvement in student learning outcomes after being given treatment using the one-sample t-test,  $t \text{ count} = 26.891$  more than  $t \text{ table} = 1.71$ , which means that  $H_0$  is rejected and  $H_1$  is accepted, which means that "There was an increase in mathematics learning outcomes after going through learning by implementing the prototype curriculum in mathematics learning for class VII students at SMP Negeri 2 Kajen where the gain value was more than 0.29. Then, the value  $Z \text{ count} > Z \text{ table}$  is obtained for student activities, namely  $1.822 > 1.645$ . Meanwhile, students' responses also obtained results with a value of  $Z \text{ count} > Z \text{ table}$  namely  $5.74 > 1.645$ . Thus student activity and student response have been meeting the effective criteria. From the results of the descriptive and inferential analysis obtained, it turns out that it is quite supportive of the theory that has been put forward in the theoretical study. Thus, "The prototype curriculum policy is effectively implemented in mathematics learning for class VII students at SMP Negeri 2 Kajen".

Some obstacles that may be faced include Teacher Readiness. If teachers do not receive adequate training or do not have enough resources, this can be an obstacle to implementing an effective curriculum. Teachers need to understand well the prototype curriculum and related learning methods. However, if teachers do not receive adequate training or do not fully understand the new approaches required, they may struggle to teach effectively. Teachers' understanding and skills in implementing the prototype curriculum are very important to achieve the expected results.

Limited resources can pose a significant obstacle to effectively implementing a prototype curriculum. If schools lack the necessary resources to meet these requirements, the execution of the prototype curriculum may be hindered, particularly in rural areas or with constrained educational budgets. Additionally, student adjustment is a critical factor as unfamiliar teaching methods or material that is not presented in a manner conducive to student comprehension can impact their understanding and interest in mathematics. Although the prototype curriculum may adhere to high national or international standards, it can mismatch students' abilities and comprehension levels at the junior high school stage. If the content taught is overly challenging or inappropriate for the student's developmental stage, it may impede their understanding and learning performance. Time constraints can also be problematic, causing teachers to feel rushed and unable to delve deeply into the curriculum, affecting student comprehension.

Furthermore, accurate evaluation and assessment of student progress may be hampered if teachers are not well-versed in the new assessment methods or face obstacles in implementing them. A prototype curriculum might introduce new evaluation and assessment approaches different from previous curricula, potentially leading to a disconnect between teaching and evaluation. Changes to the assessment systems and evaluation tools schools use can also pose a challenge. Additionally, resistance to change from some teachers, students, or parents due to discomfort or uncertainty about new approaches can hinder the effective implementation of a prototype curriculum.

#### D. Conclusion

Based on the research and discussion results, the following conclusions were obtained: The average score for students' mathematics learning outcomes after applying the prototype curriculum to mathematics learning is 85, which is in the high category. From these results, it was obtained that 24 of 25 students, or 96%, achieved the KKM, which means that classical completion was achieved. In this way, the prototype curriculum policy is effectively implemented in class VII mathematics learning at SMP Negeri 2 Kajen, Pekalongan Regency.

Some obstacles that may be faced include teacher readiness. If teachers need more resources to receive adequate training or have enough, this can be an obstacle to implementing an effective curriculum. Lack of Resources: If schools have sufficient resources to meet these needs, then implementation of the prototype curriculum may be improved. Student Adjustment: If students are not used to new teaching methods or if the material taught need to be presented in a way that they understand well, this can affect their understanding and interest in mathematics. Limited time: If time is limited, teachers may feel rushed or unable to convey the material in-depth, concerning student understanding. Evaluation and Assessment: If teachers are trained in these assessment methods or if there are obstacles in implementing them, accurate evaluation of student progress may be improved

#### References

- Ansori, M. (2020). *Metode penelitian kuantitatif Edisi 2*. Airlangga University Press.
- Azizy, Qodri A. (2002). *(Religious) Education to Build Social Ethics*. Semarang: PT. Various Sciences.
- Azwar, S. (2007). *Metode Penelitian*. Yogyakarta: Student Library.
- Corey. (1986). *Teori belajar*. Bandung: Scholastic
- Faiz, A., Parhan, M., & Ananda, R. (2022). Paradigma Baru dalam Kurikulum Prototipe. Edukatif: *Jurnal Ilmu Pendidikan*, 4(1), 1544–1550.
- Faozia, F., Adawiyah, A., & Ubadah, U. (2022). Manajemen Pengembangan Kurikulum Mata Pelajaran Pendidikan Agama Islam di Mts Negeri 2 Kota Palu di Masa Pandemi Covid-19. *Jurnal Integrasi Manajemen Pendidikan*, 1(1), 69-79.
- Hamalik, O. (2003). *Media Pendidikan*. Bandung: Citra Aditya Bakti.
- Kemmis, S. (2013). Seven principles for programme evaluation in curriculum development and innovation. In *New directions in educational evaluation* (pp. 117-140). Routledge.
- Komalasari, M., & Yakubu, A. B. (2023). Implementation of Student Character Formation Through Islamic Religious Education. *At-Tadzkir: Islamic Education Journal*, 2(1), 52-64.
- Majid, A. (2014). *Belajar dan pembelajaran: pendidikan agama Islam*. Bandung: PT Remaja Rosdakarya.
- McKenney, S., & Reeves, T. (2018). *Conducting educational design research*. London: Routledge.
- Miftahuddin. (2020). *Pengembangan Kurikulum Pendidikan Islam*. Semarang: The Mahfudz Ridwan Institute

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- Muhaimin, A. (2009). *Pengembangan kurikulum pendidikan agama islam di sekolah, madrasah, dan perguruan tinggi*. Jakarta: Raja Grafindo Persada.
- Muhaimin. (2006). *Nuansa Baru Pendidikan Islam*. Jakarta: Raja Grafindo.
- Nasution, S. (1986). *Asas Asas-asas Kurikulum*. Bandung: Jemmars.
- Ramadhan, T. W. (2019). Desain Kurikulum pendidikan Islam berbasis tauhid. *Al-Insiyroh: Jurnal Studi Keislaman*, 5(1), 118-134.
- Restu, R. Rita, R et al., (2022), Implementation of the Independent Learning Curriculum in Driving Schools. *Basicedu Journal*. 6(4).
- Roehrig, G. H., Dare, E. A., Wieselmann, J. R., & Ring-Whalen, E. A. (2022). STEM curriculum development and implementation. In *International Encyclopedia of Education: Fourth Edition* (pp. 153-163). Elsevier.
- Sagala, S. (2017). *Konsep dan makna pembelajaran: Untuk membantu memecahkan problematika belajar dan mengajar*. Bandung: Alfabeta.
- Sherly, D., & Sihombing. (2020). Freedom to Learn: Literature Review. In *Urban Green Conference Proceedings Library*.
- Supangat. (2022). *Kurikulum 2022; Mengenal Prototipe Kurikulum untuk Sekolah & Guru*. Depok: Akademi Kepala Sekolah
- Zweeris, K., Tigelaar, E. H., & Janssen, F. J. J. M. (2023). Studying curriculum orientations in teachers' everyday practices: A goal systems approach. *Teaching and Teacher Education*, 122, 103969.