IMPROVING PERSONAL RESILIENCE AND STUDENT LEARNING ACHIEVEMENT THROUGH PROBLEM-BASED INSTRUCTION LEARNING

Joko Purwanto[1*], Gunawan[2], Jaka Wijaya Kusuma[3]

[1,2]Universitas Muhammadiyah Purwokerto
[3]Universitas Bina Bangsa
*Corresponding Author: jokotien@gmail.com

Abstract
Using the problem-based instruction learning model, this study aims to increase personal resilience and student achievement. The subjects of this study were 32 class VII students of SMP Negeri 1 Banyumas. This type of research is a class action consisting of three cycles. At the end of each cycle, an assessment is made regarding teacher activity, student activity, student personal resilience, and learning achievement—data collection techniques comprised of teacher and student activity observation sheets, individual resilience questionnaires, and tests. The results showed that using problem-based instruction, personal resilience, and student learning achievement were proven to increase. This can be seen from the quantitative data for each cycle.
Keywords: Personal Resilience, Learning Achievement, Problem Based Instruction.

INTRODUCTION

In the process of learning mathematics, students need to have good personal resilience to achieve student success in learning. Good emotional resilience can cultivate a person to have a person who has self-confidence, is independent, adheres to principles, respects togetherness and social life but is free from dependence, and is also a dynamic, creative human being who has complete resilience and reflects an unyielding soul. According to Soedarsono (1997) that personal resilience is tenacity and toughness that will produce suppleness and inner strength as well as an ability and strength that radiates out that reflects the most basic resilience, where the personality of a person must be forged "strength and toughness" to have a resistance that gradually becomes resilient. In line with Djulikah's research (2017), they explained that personal resilience is an attitude of tenacity possessed by a person to develop one's talents or skills. A student can be said to have good emotional resilience if, in the learning process, the student has been able to: 1) Dare to start the task (when getting an assignment from the teacher, the student without having to be commanded by the teacher first has had the initiative to do the task), 2) Dare to argue, 3) Do not imitate the work of friends, 4) Answer questions posed by the teacher, 5) Dare to ask, 6) Respond to other friends' responses and 7) Can work together in groups.

Based on the observations given to students of class VII at SMP Negeri 1 Banyumas in the process of learning mathematics, students of class VII E have low personal resilience (persistence) and learning outcomes. Based on the first midterm exam scores, 71.875% of the students in that class still scored below the KKM. The average score of class VII E students is 68.58, even though the KKM determined by the school for mathematics is 73.

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In addition to low personal resilience, in the learning process, there are several problems including: in the learning process students pay attention to the teacher but rarely ask questions about

material they do not understand, students do not express their opinions when giving answers in working on questions, students are reluctant to seek solutions to a given problem by the teacher even though the teacher has guided the steps for solving it. This also impacts the acquisition of average class scores, which are still low. This is closely related to student achievement. Rahim (2010) explains that positive actions that increase knowledge are called learning achievement, in line with Muhibbin Syah's (2007) describing definition of learning achievement, namely a positive activity reflected in interactions or experiences in which there are cognitive processes.

So far, the learning process that takes place in class is conventional learning. In this learning model, the teacher is used as a resource in education; students only listen and write, and many need clarification and interest in what the teacher conveys. More than half of the students would prefer to ask questions about the material presented by the teacher. One effort to overcome this condition is the need to use learning models that can increase personal resilience and student achievement in the learning process. Rahnang et al. (2022) explained that to increase students' emotional stability. An educator must be able to implement a variety of learning models. One alternative learning model is Problem-Based Instruction (PBI). The Problem-Based Instruction model as a learning model has the following advantages: 1) Realistic with student life, 2) Concepts according to student needs, 3) Fostering student inquiry, 4) Concept retention becomes strong, 5) Fostering problem-solving skills (Trianto, 2010).

Based on the description above, it is necessary to conduct classroom action research titled Improving Personal Resilience and Learning Achievement of Junior High School Students with the Problem-Based Instruction (PBI) Learning Model.

METHOD

The research subjects in this study were students of class VII E, SMP Negeri 1 Banyumas, with a total of 32 students, consisting of 20 students and 12 students. This type of research is classroom action research. The research procedure consisted of 3 cycles, each consisting of 2 meetings. At the end of the cycle, an evaluation is held to determine how much personal resilience and student learning outcomes have increased. This research will be carried out through four stages: planning, implementation of action, observation, and reflection—data collection techniques involved observing teacher activities and students' personal resilience, tests, and field notes. After the data is obtained, the data analysis techniques consist of analyzing teacher activity data, analyzing student activity data using the problem-based instruction learning model, and analyzing personal stage data and learning achievement. The indicators to be achieved in this study are 1) an increase in the average personal resilience of students, which reaches more than 55.71%, and 2) the average student as a whole gets a score above the KKM, namely 73 with 75% completeness.

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RESULTS AND DISCUSSION

Teacher Activity

Aktifitas guru selama proses pembelajaran dengan model pembelajaran *Problem Based Instruction* (PBI) dari siklus I ke siklus II, dan dari siklus II ke siklus III selalu mengalami peningkatan. Hal ini menunjukan bahwa guru selalu berusaha meningkatkan kinerjanya demi keberhasilan anak didiknya dari awal kegiatan pembelajaran siklus I sampai dengan siklus III. Adapun skor rata – rata aktivitas guru dapat dilihat pada tabel 1 di bawah ini:
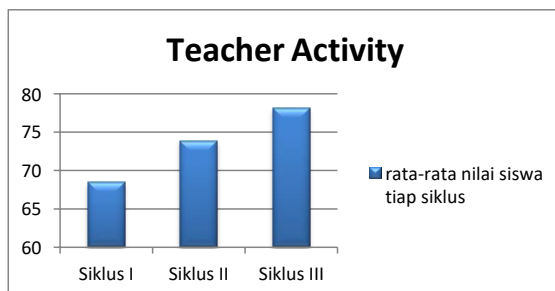
Teacher activity during the learning process with the Problem-Based Instruction (PBI) learning model from cycle I to cycle II and from cycle II to cycle III always increases. This shows that teachers are always trying to improve their performance for the success of their students from the beginning of learning activities from cycle I to cycle III. The average score of teacher activity can be seen in Table 1 below:

Table 1. Teacher Activity Criteria.

Cycle	Criteria Average Score	Criteria
I	2,81	Good
II	3,25	Very Good
III	3,39	Very Good

Based on the observations of the teacher's activities above, there was an increase from cycle I to cycle III. In cycle, I, the average score for teacher activity was 2.81, which was included in the suitable criteria because there was an interaction between the teacher and the researcher regarding teacher deficiencies in carrying out learning using the Problem-Based Instruction (PBI) learning model so that teachers could understand weaknesses and improve in the next cycle. In the end, there is always an increase in each cycle. In addition, the teacher as executor always guides students in learning so that deficiencies in learning using the Problem-Based Instruction (PBI) learning model, as expressed by Trianto (2010), can be overcome, such as complex preparation, difficulty finding relevant problems, time consumption and frequent miss-conception occurs.

The increase in teacher activity can be presented in Figure 1 below:

Teacher Activity

rata-rata nilai siswa tiap siklus

Figure 1. Recapitulation of Teacher Activities for Each Cycle.

Students Activity

Student activities during the learning process with the Problem-Based Instruction (PBI) learning model from cycle I to cycle II and from cycle II to cycle III always increase. This shows that teachers are always trying to improve their performance for the success of their students from the beginning of learning activities from cycle I to cycle III. The average score of student activity can be seen in table 2 below:

Table 2. Student Activity Criteria

Cycle	Average Score	Criteria
I	0,65	Good
II	0,75	Good
III	0,85	Very Good

Based on the results of observations of student activity above, there was an increase from cycle I to cycle III. In cycle, I, the average score for student activity was 0.65, which was included in the good criteria because there was an interaction between the teacher and the researcher regarding the teacher's deficiencies in carrying out learning using the Problem-Based Instruction (PBI) learning model so that the teacher could improve in the next cycle and the end there is always an increase in class management by the teacher towards students in each cycle.

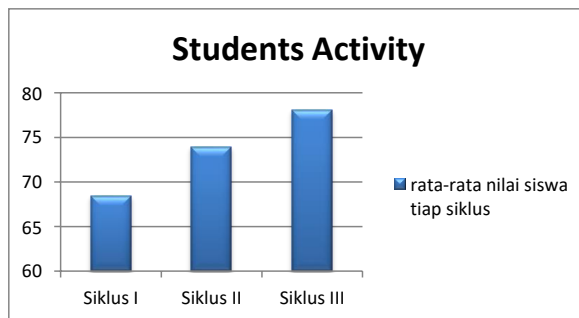The increase in student activity can be presented in Figure 2 below:

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Students Activity

(Bar chart: Siklus I ≈ 68.5, Siklus II ≈ 74, Siklus III ≈ 78; legend: rata-rata nilai siswa tiap siklus)

Figure 2. Recapitulation of Student Activities for Each Cycle.

Students Personal Resilience

Suryaningsih's research (2016) explained that if someone can develop abilities through a positive attitude based on the values of the nation's personality and maintain social harmony, then it can be said to have strong personal resilience. Students' resilience during the learning process with the Problem-Based Instruction (PBI) learning model increases from cycle I to cycle II and from cycle II to

cycle III. This shows that teachers are always trying to improve their classroom management for the success of their students from the beginning of the learning activities from cycle I to cycle III. The average score of students' resilience can be seen in Table 3 below:

Table 3. Criteria for Student Personal Resilience.

Cycle	Avreage score	Criteria
I	53,23%	Good
II	61,61%	Good
III	71,21%	Good

Based on the observations of the teacher's activities above, there was an increase from cycle I to cycle III. In cycle I, the average score of students' resilience was 53.23% which was included in the good criteria because there was an interaction between the teacher and the researcher regarding the teacher's shortcomings in carrying out learning using the Problem-Based Instruction (PBI) learning model so that the teacher can improve in the next cycle and the end there is always an increase in class management by the teacher towards students in each cycle which causes an increase in the percentage of students' resilience.

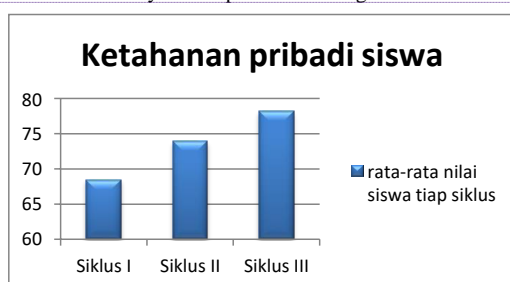The increase in student activity can be presented in Figure 3 below:

Figure 3. Recapitulation of Student Personal Resilience in Each Cycle.

Students Achievement

Table 4 below describes the results of the evaluation test for class VII E students of SMP Negeri 1 Banyumas:

Table 4. Student Test Results.

No.	Achievement	Cycle		
		I	II	III
1	Lowest Value	40	27,7	58
2	Higher Value	90	87,7	90

3	Average Value	68,44	73,91	75,63
4	Mastery Learning	34,38%.	56,25 %	78,13%

The table above shows that the average value of the evaluation test has increased from cycle I to cycle III, namely from 68.375 to 78.125. These results are by the objectives of the desired learning achievement. These results align with Muah's research (2016) and Zebua et al. (2022) prove that the problem-based instruction learning model can improve student achievement. Furthermore, Malik's research (2015) proves that learning models can develop the ability to understand concepts in science.

The increase in student evaluation test scores can be presented in Figure 4 below:
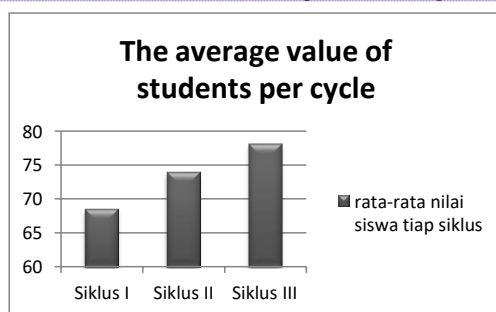
The average value of students per cycle

■ rata-rata nilai siswa tiap siklus

Siklus I   Siklus II   Siklus III

Figure 4. Average Student Test Scores for Each Cycle.

While the increase in students' mathematics learning mastery can be presented in Figure 5 below:
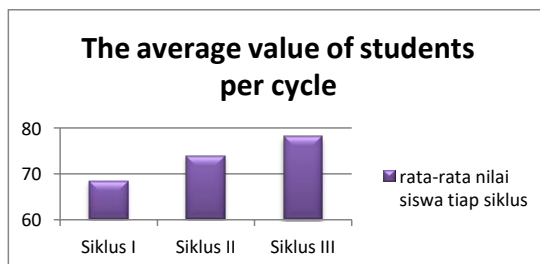
The average value of students per cycle

■ rata-rata nilai siswa tiap siklus

Siklus I   Siklus II   Siklus III

Figure 5. Recapitulation of student learning completeness.

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CONCLUSION

Based on the results of the research and discussion, it can be concluded that the use of the Problem-Based Instruction (PBI) learning model is as follows:

1. It has been proven to be able to increase personal resilience. This is indicated when before using the Problem-Based Instruction (PBI) learning model, the average emotional stability for class VII E of SMP Negeri 1 Banyumas was 31.7%. After the action was implemented, the average increased to 55.71%.

2. Improving students' mathematics learning achievement on rigid material. Before the action was carried out, the average class score was 69, with a learning completeness of 31.25%. After the action in cycle I, the learning completeness increased to 34.38% with an average class value of 68.44; Then, after the activity was carried out in cycle II, student learning completeness rose to 56.25% with a middle-class value of 73.91 and after the action was carried out in cycle III, student learning completeness rose to 78.13% with an average class value of 75.63.

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