The Reluctance of Students to Ask in Mathematics Learning: How Does The Teacher Solve It?

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Abstract. This study aims to describe factors that cause passivity and are reluctant to ask students during learning, as well as to see what efforts made by the teacher to overcome the problem. So that later it will give an illustration of the extent to which the teacher understands and knows the impact of the learning that has been done. Participants from this study were 12 mathematics teachers who had 10-34 years of teaching experience. The Result show that the majority of teachers thought that fear and shame were the main factors for causing students’ low participation and reluctant to ask. Unfortunately, there are still many teachers who have not realized that the learning method used. In addition, the effort made to overcome these problems is to provide motivation and make an interesting and comfortable learning atmosphere. That is the answer which is most expressed by the teacher.

1. Introduction

Active participation from students in learning process is one form of learning itself. According to Piaget, students must be actively involved in learning and he asserted that there is no learning without experience [1]. The involvement of students in learning is expected to provide meaningful learning for students. Student active participation has several benefits including making students more motivated, supporting learning, improving communication skills, and supporting higher-order thinking skills [2]. In addition, student participation in learning can facilitate the learning process and the students can also be helped to be active in the learning process [3]. The discussion process is also a vital component of students’ active participation in learning. Student participation in the classroom involves a variety of activities and has a different form, it can be simple questions and explanations that come from the students during the learning process [4]. The length of the discussion varies depending on the time and breadth of the material discussed. Ideally, the discussion will run well if it involves students in the class, students’ interests, and all students absorb the information explained by others [3].

Good interaction between elements in the learning process is a feedback from the stimulus and response. One of the responses expected to occur in learning is a question raised by students. The questions asked are one form of active involvement of students in learning. However, there is a fact that students are still reluctant to ask during the learning process, although asking a question is an important element in the design and facilities of learning [5]. Besides that, by asking students’ level of knowledge and understanding can be seen by the teacher. This is in accordance with the results of research conducted by Clasen which states that the level of students’ thinking can be seen from the level of questions posed by them [6]. However, using questions to help students’ inquiry is a relatively new technique in schools. In the past, teachers used questions just to find out what books or materials
that their students have studied and to ascertain whether students were paying attention to the lessons during class [7]. Furthermore, questions are also psychological tools for thinking such as helping to express ideas and can advance students’ understanding of scientific concepts. Asking questions and finding answers are the keys to active learning because the learning process induces interactions that occur between learning elements [8].

The fact shows that students tend to be more passive during the learning process. Based on the observations made by Priyanti and Sukirno [9] in Economics subject on 108 students who became the object of observation, there are only 7 students or 6.48% who asked questions. This also occurs in Mathematics, which in fact is still considered difficult by students. The observations made by Mustakin and Solikhin [10] in one of the junior high schools in the province of Indonesia showed that from 27 students, only 12 students dared to ask questions if they have difficulties. From these two observations, it is clear that students’ motivation to ask questions should be a special concern to the teacher or educator as the authority holder in carrying out the learning process. In addition, there have been many research results which state that most students in the early grades and also in the higher classes reluctant to take part in classroom activities [2]. Thus, the students in the classroom tend to be passive. Moreover, there have been many studies that show that students tend to be passive during learning.

Various studies have been conducted to find out the factors that cause students to be passive and reluctant to ask questions during the learning process. These factors are classified into internal factors and external factors. Internal factors consist of student motivation, interests, tendencies, abilities, prior knowledge, and physical disability, while external factors can be in the form of age when learning, peers, teacher behavior, parental support, parents’ social and economic status, classroom environment, curriculum and others [2]. These factors must be well understood by the teacher. Therefore, if the teacher understands and aware of these factors, it will provide awareness that the teacher is one of the causes of passivity and reluctant to ask students during learning. Therefore, this study analyzes the teacher’s perception of what factors cause students to be passive and reluctant to ask and what efforts have been made by the teacher to overcome this problem. Therefore, this study provides an explanation of whether the teacher’s perception is in line with what is actually experienced by the student or the underlying student be passive. Thus, the later will become a consideration for teachers in teaching.

2. Research Method

The qualitative descriptive research was applied in this study, which aims to provide an overview of teacher perceptions of the factors that cause students to be passive and reluctant to ask questions during the teaching and learning process. In addition, this study will also describe what efforts that teacher do to help students be more active and willing to ask questions during the teaching and learning process. This study involved 12 math teachers with a long teaching period or who had 10 to 34 years of teaching experience. The details are as follows: 3 teachers with 10-20 years of teaching experience, while for the teaching period of 20-34 years, there are 9 teachers. In addition, the teachers came from different educational backgrounds, with details: bachelor degree (S1) as many as 9 teachers, while the teachers with master degree (S2) education background were 3 teachers. The teachers studied as the object were a combination of several teachers who came from Junior High Schools (SMP) in Wonosari district.

Data was collected through an open questionnaire consisting of 2 questions that have been validated by the Expert and designed to obtain in-depth results related to the research conducted. The questionnaire consists of two parts, namely the teacher’s perception of the factors that make students passive and reluctant to ask questions during the learning process takes place. In the second part of the question related to the efforts made by the teacher to encourage students to be more active and willing to ask questions during the teaching and learning process. Open-ended questions the researcher chooses because the researcher does not want to limit the teacher’s answers or perceptions to the questions given, so the teacher can answer those questions according to what the teachers do, for decades teaching. In addition, with open questions that give are more varied answers from the teacher’s perspective. The questionnaire used in this study is presented in table 1 as follow:
Table 1. Questionnaire of the study

| Number | Questions |
|--------|-----------|
| 1      | What do you think are the factors that cause passive students and reluctant to ask questions when the learning process? |
| 2      | What is your efforts to make students more active and want to ask questions during the learning process? |

The data obtained was analyzed by preparing and grouping data, then the data is reduced, and the results will be presented in table form or discussion [11]. The results obtained will then be seen as a number of dominant opinions contained in the discussion so that they can represent several factors that cause passive students from teacher perceptions and the efforts made by the teacher to overcome these problems.

3. Result and Discussion

3.1. Teacher’s perception of student activity during learning

Question 1: According to you, what are the factors that caused students’ low participation and reluctant to ask questions when the learning process takes place? The questions are an open-ended question. So the answers obtained from 12 respondents are varied. The answers obtained are then reduced and categorized so that the results presented in table 2 are as follows:

Table 2. Teacher's answer to question 1

| Factors that cause students to be passive and reluctant to ask | Theme | Relations between themes |
|-------------------------------------------------------------|-------|--------------------------|
| Students get used to having fear and shame, and also feel they must always be right | Students feel scared and ashamed to ask | Fear, lack of confidence, low academic ability, low motivation to ask and learn, and not accustomed to expressing opinions, lack of understanding regarding the material being studied, lack of initial preparation before starting the material, tendency to conclude the material themselves, without confirmation with teacher, students do not like material and teacher, the methods was not interesting, lack of opportunity to ask students, and |
| Students are afraid of being wrong and afraid of being laughed at by other friends | | |
| Students may be afraid of being scolded by the teacher | | |
| Students feel afraid the language used is wrong | | |
| Students fear being teased by friends if the question is not graded | | |
| Students are not confident | Students feel insecure | |
| Students are not sure that they are able or not | | |
| Students are not used to expressing their thoughts | Students are not used to expressing opinions | |
| Students are not used to asking questions | | |
| Students have not been motivated to ask questions | The low motivation of students to ask | |
| Students are lazy to ask and to learn | Student’s low academic ability | |
| Students do not know what they want to ask | | |
| Low student academic ability | | |
| Dependence on smarter friends | | |
| Students do not understand the material being studied | Students do not understand the material being studied | |
Problem posed:

| Students are not focused on learning | The low motivation of students to learn |
| Students are lazy and indifferent in learning | too much material causes students to be passive and reluctant to ask |
| Students are not motivated in learning | Students do not prepare material before learning |
| Students don’t read the material before learning | Students conclude by themselves the material learned without confirmation to the teacher |
| Students do not learn the material in advance | Students do not like mathematics and mathematics teachers |
| Students tend to conclude their own material without confirmation to the teacher | The learning method used by the teacher is not interesting |
| Students do not like teachers who teach mathematics | Lack of opportunity for students to ask and lack of teacher skills to ask questions to the student |
| Students don’t like math | |
| Students are always learning with conventional learning methods | |
| The learning method used is not interesting | |
| The teacher does not facilitate students to ask questions | |

The results of the teacher answers listed in the table above show that the teachers agree that the factors that cause students’ become passive and reluctant to ask questions do not only come from students but also come from teaching or the method implemented by the teacher. The results obtained vary because the teacher’s answers are not limited to each question, so the teachers are free to express their thought and experience based on the teaching experience. The results obtained suggest that all respondents agree that the cause of students’ low participation and reluctant to ask questions is students feel less motivated to learn and feel afraid and ashamed to ask. Fears felt by students according to the teacher include fear of being ridiculed by his friends, fear of being considered stupid and fear of getting a poor response from the teacher so that students tend to choose silence even though he does not understand the material being studied. The fear also shows the lack of confidence that students have. Lack of confidence is also a factor that causes a lack of active participation of students in learning [12]. In addition, the teacher also believes that based on teaching experience the students often say that students do not understand what the material to a sk from the material being studied.

Teacher’s perception above is similar to the results of research conducted by Chang [13]. Based on the findings, it was identified that the students’ low participation can be explained for various reasons including maintaining harmony groups, fear of being humiliated, fear of being show off, teachers’ intolerance for silence, and insufficient waiting time. In addition, according to researchers, other factors related to the factors that cause passive students or students’ low participation are the students do not understand the material being studied in which outlined from some of the causes and consequences that may occur, there is: students do not learn the material before the lesson begins so students do not know what to ask. One teacher mentions that another possible cause is too much material and too short a time. Although this is considered to be tentative, actually this can be a problem for students who find it difficult to focus on understanding the diverse material.

There are few teachers who realized that one of the factors that also cause passive students and reluctant to ask comes from the teaching methods used by the teacher. Only 1/3 of the 12 respondents who thought that the teaching method used by the teacher took a role in passivity and were reluctant to ask students. However, the results of research conducted by Trần Thị Tuyết show that the learning method used by the teacher influences the active participation of students in learning [14]. Unattractive learning methods give rise to students’ boredom in following the learning carried out by the teacher.
This condition also results in students dislike math lessons, even the worst things that can happen to students is they also dislike teacher of the lesson. Thus, the teacher must really know how and responsible for the design of learning activities that involve students authentically and productively in their learning [15]. Besides that, the lack of motivation that students have for learning, which is represented through students’ indifference towards learning becomes another factor that makes students passive.

3.2. The strategy made by the teacher to motivate the student to be more active during the learning process

Question 2: What did you do to make students more active and want to ask questions during the learning process? The answers obtained are then reduced and categorized so that the results presented in table 3 are as follows:

| The strategy is carried out by the teacher so students are more active and willing to ask questions | Theme | Relations between themes |
|---|---|---|
| Teachers must often provide motivation so students are not ashamed to ask questions and are more open | The teacher provides motivation for students to ask questions | Giving motivation, approaching, answering questions thoroughly, learning methods that are interesting and comfortable for students, providing opportunities to ask questions, and using language that is easily understood by students is a strategy that teachers can do so students are more active and willing to ask questions. |
| The teacher tells stories that are able to build students’ interest in learning and asking questions | The teacher helps to grow students’ confidence |
| The teacher gives motivation to students for example by adding assessment points so students want to ask questions | The teacher helps build students’ self-concepts |
| The teacher provides motivation to build students’ confidence | The teacher helps build students’ self-concepts |
| The teacher helps build students’ confidence | The teacher helps build students’ confidence |
| The teacher gives the opportunity for students to ask questions | The teacher gives the opportunity to ask students |
| The teacher provides support questions so students want to ask questions | The teacher gives the opportunity to ask students |
| The teacher is open to students | The teacher provides support questions so students want to ask questions |
| Teachers do not just answer questions by focusing on just one student, but thoroughly | The teacher answers the questions posed by students while still explaining to all students in the class |
| Give full attention when students ask | The teacher approaches and provides motivation for students to study hard |
| The teacher must motivate students to study hard | The teacher helps students like math teachers |
| The teacher must approach the students, both thoroughly and personally | The teacher helps students so that students like math teachers |
| The teacher helps students like math teachers | The teacher helps students so that students like math teachers |
| The teacher asks the students to study the material before learning takes place | The teacher asks the students to study the material before studying in class |
| The teacher asks students to read the material from the various initial sources they have | The teacher asks the students to study the material before studying in class |
| The teacher asks students to understand the | | |
subject matter, looking for supporting questions related to the lesson

The material taught is related to students’ daily lives

The teacher associates material with everyday life

The teacher carries out cooperative learning and discussion

Interesting and comfortable learning for students

The teacher must create a comfortable learning environment for students

The teacher provides learning that empowers students

The teacher uses student worksheet in learning

Provide student worksheet that not only contains questions but also contains material

The teacher uses teaching aids in learning

The teacher familiarizes himself with using good, simple and short Indonesian

The teacher uses language that is easily understood by students

Table 3 shows that the respondent or teacher began to take to overcome passivity and was reluctant to ask students in learning. Providing motivation and making an interesting and comfortable learning atmosphere are the answers most teachers express. This means that more than 1/2 respondents agree that motivating and making interesting learning atmosphere is a good effort to increase student participation in learning. The motivation given further is described by telling stories that encourage students to be diligent in learning and helping students build their self-confidence so that they will be brave and willing to ask questions and at the end, students’ participation will be involved in learning. One of the teachers stated that giving additional points in learning for students who are actively asking questions is a good motivation for students. Motivation to learn will affect student learning outcomes. The results of research conducted by Sitwat Saeed and David Zyngier confirmed that students who are motivated and involved will learn better and will get the best possible learning outcomes in their academic [15]. This provides confirmation that teacher must help students until they are motivated in learning. So they will have a good influence on student learning outcomes.

In addition, instructing students to read the material before learning this can overcome students who are difficult to understand the material quickly, and help students who are not familiar with the culture of asking in the classroom. This is also an effort made that students are actively involved in learning. By preparing to participate in class, students become very motivated [16]. One teacher also argued that when the teacher explaining the material asked by a student, he must not only focusing on the questioner was also a solution were made students would ask questions. This is considered necessary because sometimes the teacher only answers or explains the material only to students who ask. Not comprehensive to all students. In fact, it is not uncommon to answer questions only by standing next to students who ask. So that this results in other students feeling not considered by the teacher.

The efforts made by the teacher to make students more willing to ask questions are through the implementation of learning or through the use of more varied learning methods. Furthermore, respondents stated that learning by using student worksheet, implementing discussions, and using teaching aids was able to be a solution to make students more active during the learning process. Besides, that linking material with students ‘daily lives will also help students’ involvement in learning. This is in line with the opinion says that the questions are appropriate and relevant, material that is useful for their daily lives, a conducive classroom environment, and a positive level of participation influences increased class participation [17].

Giving the questions that can motivate students is deemed necessary so that students are able to process their thoughts until new questions will emerge which will later lead students to find answers and want to ask questions. This is consistent with the results of research conducted by Youngju Lee
and Mable Kinzie which states that the questions posed by the teacher will have a different impact on student responses. If the questions asked are open, students will respond with the effects of the teacher’s questions using more varied vocabulary and more complex sentence structures. But when the teacher asks questions that are prediction and reasoning oriented, students will practice high-level cognitive skills in response [5]. Therefore, the teacher must pay attention to the questions posed to the purpose of the question. The high quality of questions posed by teachers effectively facilitates student involvement in inquiry-based science activities [18]. More than that all the most important thing to make students want to ask is to give students the opportunity to study the material so that students have the opportunity to ask questions.

A deep relationship between the factors that cause passive students and are reluctant to ask questions with the efforts made by the teacher to make students more active and want to ask, namely that the teacher generally realizes that the protests are not only derived from students or can be said to be factors internal students, in the form of mental, health and so on. But it is also caused by external factors of students. That can come from teaching methods, teaching environments and so on. This is supported by a theory that states that internal and external factors of students influence learning activity.

In this study, it can also be seen that even though the teacher has had a long teaching experience, there are still many teachers who are unaware that one of the factors that cause them to be passive and reluctant to ask is because of the response and method, teaching or the method done by the teacher in learning process. But this is a bit contrary to the teacher’s answers relating to the efforts of the teacher so that students are active and want to ask, that clearly states that the effort that can be done by the teacher is to make learning interesting and comfortable for students. So it can be concluded that in fact, the majority of teachers as respondents agree that the teacher’s teaching method is a factor that causes passive students, but does not dare admit it. Through this research, it emphasizes on us that being a teacher must be willing and continue to evaluate the learning that has been done so that it does not see that what the cause of not achieving the learning objectives comes from students only but can also come from the teacher as the implementer of learning.

4. Conclusions

The factors that cause students to be passive and reluctant to ask include those from internal students and external factors. Internal factors are in the form of fear, shame, lack of confidence in students, lack of motivation to ask and learn, dislike of mathematics, and mathematics teachers, and lack of students’ preparation before learning. The factors that come from external students and come from the teachers, for example, learning methods that are not interesting and comfortable for students, the use of learning media that are still lacking, besides providing opportunities for students to ask questions. The solution offered by the teacher to solve the problem is to provide motivation to create a sense of self-confidence, and loss of fear and shame from within the student. Besides that, the implementation of interesting and comfortable learning for students is a necessity in learning. A not less important aspect is the use of language that is good and easy to understand by students. Based on the results found from this study, the researchers suggest that teachers always to evaluate the learning that has been carried out, both with the help of the other teachers, or other related teams. Thus, the teacher does not become an indirect cause for students’ failure to achieve learning goals and the teacher must be able to create learning that can make students feel comfortable and interested in learning, which will affect the achievement of expected competencies.

5. References

[1] Bybee R W and Sund R B 1982 Piaget for educators (second edition). (Columbus: Charles E. Merrill publishing Co)
[2] Aziz F, Quraishi U and Kazi A S 2018 Univ J Educ Res 6 211
[3] Cohen M 1991 Making Class Participation a Reality (Political Science & Politics) pp. 699-703
[4] Constantinople A, Cornelius R, and Gray J 1988 Journal of Higher Education 59 527
[5] Lee Y and Kinzie M B 2012 J. Instr. Sc. 40 857
[6] Savage L B 1998 The Clearing House: A Journal of Educational Strategies 71 291
[7] Lewis K G 1988 Teachers and Students – Sourcebook (section 5). (Austin: The University of Texas)
[8] Chin C 2002 Teaching and Learning 23 59
[9] Prilanti Y N and Sukino 2017 Cakrawala Pendidikan 2 244
[10] Mustakim and Solikhin 2015 Jurnal Pendidikan 16 74
[11] Creswell J W 2012 Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research. (University of Nebraska–Lincoln: Pearson Education)
[12] Khaleghi A 2016 Int. J. Of Human. and Soc. Sci. 6 185
[13] Chang F-Yu 2011 The Journal of Asia Tefl 8 1
[14] Tuyệt T T 2013 js.vnu.edu.vn. 29 72
[15] Saeed S and Zyngier D 2012 Journal of Education and Learning 1 252
[16] Garside C 1996 Communication Education 45 212
[17] Bean J C and Peterson D 2002 New Directions for Teaching and Learning 1998 33
[18] Ogu U and Schmidt S R 2009 Investigating Rocks and Sand (Young Children) pp. 1-9