

# The Influence of the Quality of Questions And Self-Regulated Learning toward Students' Learning Outcomes

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## Abstract

*Understanding learning material in more depth will be more efficient when it is done by asking qualified questions and self-regulated learning. The main issue in this research is whether present or not the significant influence of: the quality of questions toward the learning outcomes, the self-regulated learning toward learning outcomes, and the quality of questions together with the self-regulated learning towards the learning outcomes. The research design model used in this research is correlational ex post facto research. The number of students studied is the total population of 149 students. Data were obtained from the questionnaire answers and the report cards. The data were analyzed using multivariate regression statistic formula. The results showed that: (1) the influence of quality questions toward learning outcomes was 0.243 with significance value 0.001; (2) the influence of self-regulated learning toward learning outcomes was 0.610 with significance value 0.000; (3) the influence of quality of questions together with self-regulated learning toward learning outcomes is 40,9%. The influence of the quality of questions toward learning outcomes is low. It is possibly caused by traditional teacher-centered learning methods, by being afraid of losing face or losing of reputation, and by cultural values respecting the role of teachers through being passive. The self-regulated learning strongly influences learning outcomes. This self-regulated learning often results from the very high learning compulsion by teachers.*

**Keywords** — *influence, learning, learning outcomes, self-regulated learning, quality of questions.*

## I. INTRODUCTION

The 2013 Indonesian Curriculum directs each teacher to present active learning. In such active learning, an interactive process occurs between the actions of teachers and the activities of students. Students engage in thinking and in activities to understand learning materials. The center of learning activities is the students as the active participants of the learning process [10].

The active learning process of the 2013 Indonesian Curriculum is based on the scientific learning syntax:

observing, asking, doing experiments or collecting data, reasoning or associating or processing data, and communicating [11]. In the scientific learning, students do not just accept learning materials on the activity of observing learning materials presented by the teacher. The learning activity is initiated by asking questions. The ability to ask questions becomes a significant condition (*conditio sine qua non*) to learn on subsequent syntax. Without the questions, it would be difficult to realize the activities of doing experiments or collecting data, processing the data to construct knowledge, and ultimately communicate the knowledge gained in the learning process.

The Implementation of active learning might encounter the obstacles regarding the passive attitude of students in the learning process. A number of studies show that some Asian countries are not yet fully able to apply active learning methods. Research conducted by Frambach et. al., [3] in Hong Kong and the Middle East schools found a poor quality of questions, low discussion abilities or lack of courage to present an argument held by students.

Asking questions is a very common thing to do in the learning process. Teachers often use questions for various purposes, e.g. to measure students' understanding, to get information from students, to stimulate students to think, and to control the class. The questions the students ask also have various objectives, e.g. to get an explanation, to express their curiosity, or even just to get attention. There seems to be no denying the important role of questions in the learning process.

Asking questions plays a big role in "learning to learn". Students learn effective and meaningful ways of learning through asking questions. This question is often not voiced, but rages in the heads of students. Making students aware of the rage of these questions can help them to develop metacognitive abilities [6].

To improve the quality of learning, it is important for each student to ask qualified questions so that they have a better strategy for interacting with the learning material. This qualified question allows students to have a relationship with the learning material. Without qualified questions in the head of each student, the students will never obtain new knowledge. Questioning skills will equip students with tools for

self-analysis. This asking skill needs to be trained and developed at all ages and in all disciplines. Asking is a fundamental skill. In fact, asking is the indicator of understanding.

Teachers need to teach how to develop the real qualified questions, which reveal the students' understanding. Allow students to feel the joy of learning, in which questions are valued and celebrated, will provide learning experiences that are very useful and meaningful for students. When students have ownership of the learning experience, enthusiasm, effort, and efficacy in learning will be generated.

Students cannot be expected to think critically and creatively about ideas or knowledge if they do not have magic ingredients, namely questions, in starting learning. This question can be a question or statement of inquiry. This question can be a challenge, a problem to solve, and a decision to make. Therefore, in the abundant availability of data and information in the 21st century, teachers are required to teach students how to be critical and creative users of information that is available. The attribute "being critical and creative" is only obtained if students become effective questioners.

Morgan and Saxton [8] proposed a number of classifications of questions that indicate the ability of students in asking qualified questions. The quality of questions has an important role in learning. There are three categories of questions: (a) questions for information retrieval, (b) questions to sharpen understanding, and (c) questions that require reflection. The questions in these three categories are questions of high quality because they reveal the principles of learning [8], namely.:

- (1) Students have the right to participate in their education and to be provided with the means to share responsibility for their learning.
- (2) The collective nature of the classroom shall be recognized and preserved. Students come to understand the subject matter by building a common framework of reference that enables them to participate in learning as a social and cultural process which is not "just one of individual discovery but also sharing, comparing, differentiating and arguing one's perspective on others [2]."
- (3) Every individual needs and has the right to be encouraged to understand ideas at the deepest level of thought and feeling, and must be given time for reflection. As Bruner says, "Much of the educational process consists of the ability to distance oneself in some way from what one knows by reflecting on one's knowledge [1]."

If students ask questions according to such categories, they ask qualified questions.

Students' enthusiasm in learning cannot occur without the independence of learning. Learning independence is the ability to self-direct to learn (self-directive) [13]. Based on the perspective of social cognitive theory, the process of Self-regulated

Learning can be divided into three phases of the cycle: forethought phase, performance or volitional control phase, self-reflection phase [12]. Each phase shows indicators of learning independence.

The students' ability in asking qualified questions accompanied by self-regulated learning is interesting to be studied, especially in relation to the students' learning outcomes. The researchers are interested in using the quality of questions and self-regulated learning as a predictor which influences learning outcomes. As the 2013 Indonesian Curriculum aims to improve the quality of students' learning process through scientific learning methods, the researchers wish to prove that quality of questions and self-regulated learning have a high contribution to learning outcomes achieved by students.

Based on the possibility of the influence of the quality of questions and the self-regulated learning toward learning outcomes, the researchers formulate the research questions as follows:

- 1) How much is the influence of the Quality of Questions asked by students toward the students' Learning Outcomes?
- 2) How much is the influence of the students' Self-Regulated Learning toward the students' Learning Outcomes?
- 3) How much is the influence of the Quality of Questions asked by students together with the students' Self-Regulated Learning towards the students' Learning Outcomes?

## II. METODE

### A. Respondents

Respondents in this study were all students of class XI IPS 1, XI IPS 2, XI IPS 3, XI IPS 4 and XI IPS 5 at St. Paul Catholic Senior High School Jember, in the 2016-2017 academic year. The total population was 149 students. This population was small enough to be the subject of research in quantitative research, so it is not necessary to use the research sample.

### B. Research Procedure

In this study, researchers used primary data obtained through questionnaires and students' report cards. The questionnaires were used to measure the quantity of qualified question being asked and the of self-regulated learning. Data collection was collected through the distribution of the questionnaires to the respondents, that is, the students of class XI IPS of the Catholic Senior High School St. Paul Jember. Each student was asked to fill out the questionnaire. The collected answers to this questionnaire were the data obtained on the Quality of Questions and Self-Regulated Learning variables. The data of the Learning Outcome variable were obtained from the grades of Sociology in the 3rd semester students' report card.

### C. Results

Data on the Quality of Questions collected in this study are described as in the following table.

**TABLE 1**  
**Data Distribution of the Quality of Questions**

No.	Interval	Freq.	Percent.	Explanation
1	82 - 109	1	0,7%	Very High
2	55 - 81	6	4,0%	High
3	28 - 54	131	87,9%	Low
4	0 - 27	11	7,4%	Very Low

Data on Self-Regulated Learning collected in this study are described in the following table.

**TABLE 2**  
**Data Distribution of The Self-Regulated Learning**

No.	Interval	Freq.	Percent.	Explanation
1	216 - 264	148	99,3%	Very High
2	166 - 215	0	0,0%	High
3	117 - 165	0	0,0%	Low
4	66 - 116	1	0,7%	Very Low

Data on achievement of learning outcomes are described in the following table.

**TABLE 3**  
**Data Distribution of the Learning Outcomes**

No.	Interval	Freq.	Percent.	Explanation
1	93 - 100	10	6,71%	Very High
2	84 - 92	83	55,70%	High
3	75 - 83	55	36,91%	Low
4	<75	1	0,67%	Very Low

Minimum Criterium of Mastery Learning for Sociology at Saint Paul Senior Catholic High School, Jember, was 75. If a student got a score below 75, the student was declared to have failed.

Calculation of SPSS 24 for Windows for multiple linear regression models produced inter-variable correlation values as described in the following table.

**TABLE 4**  
**Inter-variable Correlation**

	Learning Outcomes	Quality of Questions	Self-Regulated Learning
Pearson Correlation	Learning Outcomes	1,000	,243
	Quality of Questions	,243	1,000
	Self-Regulated Learning	,610	,086
Sig. (1-tailed)	Learning Outcomes	,001	,000
	Quality of Questions	,001	,148
	Self-Regulated Learning	,000	,148
N	Learning Outcomes	149	149
	Quality of Questions	149	149
	Self-Regulated Learning	149	149

The correlation of the Quality of Questions to the Learning Outcomes (grades) was weak, and positively correlated, which meant the higher the Quality of Questions was asked, the higher the

Learning Outcomes were obtained. The correlation of the Self-Regulated Learning to the Learning Outcomes (grades) was strong, and positively correlated, which meant the higher the Self-Regulated Learning, the higher the Learning Outcomes (grades) were obtained.

To test whether the independent variables of Question Quality together with Self-Regulated Learning affected the dependent variable Learning Outcomes, the test was carried out using the F number from the ANOVA calculation. The value of  $F_{Calculate}$  was 50.468, and was greater than  $F_{Table}$ , which was 3.06. The Quality of Questions together with Self-Regulated Learning together had a significant effect on the Learning Outcomes.

The determination coefficient of the influence of  $X_1$  (Quality of Question) together with  $X_2$  (Self-Regulated Learning) toward  $Y$  (Learning Outcomes) could be seen in the column R Square in Table 5.

**TABLE 5**  
**Coefficients of Determination of  $X_1$  together with  $X_2$  toward  $Y$**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,610 <sup>a</sup>	,372	,368	4,270	
2	,639 <sup>b</sup>	,409	,401	4,158	1,716

a. Predictors: (Constant), Self-Regulated Learning

b. Predictors: (Constant), Self-Regulated Learning, Quality of Questions

The value of R Square or the coefficient of determination of the influence of  $X_1$  together with  $X_2$  toward  $Y$  in this study was 40.9% [4]. The remaining 59.1% was the influence of other variables such as: attractiveness of teaching methods, diversity of learning methods, learning motivation, learning atmosphere, completeness of learning resources, learning environment, students' learning readiness, students' level of intelligence, the activeness of students in the learning process, etc. The results of stepwise regression calculation on SPSS 24 for Windows show that 37.2% of the influence was contributed by  $X_2$  (Self-Regulated Learning). The rest (3.7% of the total 40.9%) was affected by  $X_1$  (Quality of Questions).

**TABLE 6**  
**Regression Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	35,344	5,284		6,689	,000
	Self-Regulated Learning	,200	,021	,610	9,332	,000
2	(Constant)	32,963	5,205		6,333	,000
	Self-Regulated Learning	,194	,021	,593	9,290	,000
	Quality of Questions	,095	,032	,192	3,012	,003

Table 6 shows the regression equation of the constant number (constant) and the regression equation of the hypothesis testing. Based on Table 6, the regression equation is formulated as follows:

$$Y = 32,963 + 0,095X_1 + 0,194 X_2$$

The first regression coefficient ( $b_1$ ) is 0.095. This means that for each addition of 1 Quality of Question, the Learning Outcomes increases by 0.095. Through the increasing the Quality of Questions, the Learning Outcomes will increase. The second regression coefficient ( $b_2$ ) is 0.194. This number means that every addition to 1 Self-Regulated Learning, the Learning Outcomes increase by 0.194. Through the increasing level of Learning Independence, Learning Outcomes will increase.

### III. DISCUSSION

The quality of questions correlated low in influencing learning outcomes. These findings corroborated the findings of Frambach et. al., [3] namely the low ability of Asian students to ask questions. Based on the findings in this study, the researchers argued that students in Saint Paul Catholic High School, Grade XI, Social Study Program, 2016/2017 Academic Year, were still familiar with traditional learning method, that is, teacher-centered method. Passivity in asking or discussing was still influenced by the traditional understanding that the teacher is the only source of knowledge, and the task of students is to listen to all the teacher's explanations. As a result, students did not have the habit of asking or seeking knowledge or compiling concepts of knowledge independently. In addition, the focus of learning was the presentation of all material content by teachers. The process of deepening the material was not the teacher's attention in the learning process. Therefore, the active involvement of the students was not conditioned by the teacher. The teacher just tried to deliver the material content to the students.

Another reason was that students at the Saint Paul Catholic Senior High School tended to be less confident and anxious to ask questions, because they understood this action as an attitude to reveal the lack of knowledge they had. The act of asking was considered as a mistake that resulted in loss of face or loss of reputation and good name in front of other group members. So, the act of asking questions was a shameful act, because the person who asked questions was considered as a person who had a lack of knowledge even though they felt they had something to ask or say [3]. Reputation or good name is very important in the communication culture of Asian culture [7].

In Asian culture that respects the role of the teacher, the silence during this learning process is seen as an ideal attitude that is socialized as a form of respect for the teacher. Staying passive during the learning process is considered the best choice of attitude [3].

The teacher also has a role in the emergence of this passive behavior. The teacher is not sure that students have the ability to think, to explore, and to structure the knowledge in their minds, so the teacher feel they have to give a detailed explanation to the

students. It fosteres dependency behavior to teacher's attendance during the learning process. Many teachers have the belief that students cannot take responsibility for obtaining knowledge independently.

Once the teacher ignores the importance of actively asking questions and constructing knowledge, the teacher also ignores the efforts to develop the creativity of students. Creativity arises from questions. The more creative a person is, the more questions that arise in his or her thinking. The more questions are asked, the more likely answers can be proposed. The low creativity of students in the passive learning model is a logical consequence that must be accepted.

Learning Independence strongly correlated in influencing Learning Outcomes. This finding proved the point stated by Hofer, et al. [5] that Self-Regulated Learning is the main factor that influences the students' performance and learning outcomes. If students have high Self-Regulated Learning skill, these students will get good learning outcomes or high scores in the tests they take.

The very perceived influence of Self-Regulated Learning on students' Learning Outcomes was the development of self-efficacy or self-reliability [9]. Reliable which is meant here is not only about the power of understanding the material, but also about the endurance in facing difficulties in learning. Students who have a high level of self-reliability will still survive to learn even though there are various difficulties they have to face. This self-reliance encourages him to find a solution to the problems and difficulties he is facing [9].

Self-Regulated Learning does not happen by itself. Students who have never been trained in Self-Regulated Learning will not have the ability to learn independently, whether in the classroom or at home. This Self-Regulated Learning is often produced from very high learning demands from teachers at school. This high learning demand is often a label for Catholic schools. Catholic schools are not only famous in training discipline, but also well-known in academic tasks. Catholic school students spend most of their time working on academic tasks given by the teacher. Self-Regulated Learning is a common requirement in Catholic schools.

### IV. CONCLUSIONS

Based on the results of research and discussion, the researchers can draw the following conclusions:

1. The level of correlation between the Quality of Questions and the Learning Outcomes of students based on the calculation of the Pearson correlation test was weak. Question Quality had a low effect on students' Learning Outcomes.
2. The level of correlation between Self-Regulated Learning and Learning Outcomes of students based on the calculation of the Pearson correlation test was strong. Self-Regulated

Learning had a strong influence on students' Learning Outcomes.

3. Based on the tests carried out using the F values from the ANOVA calculation results, it was found that the Quality of Questions together with Self-Regulated Learning had an effect of 40.9% on the students' Learning Outcomes

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