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**Submission date:** 30-Jan-2020 12:08PM (UTC+0700)

**Submission ID:** 1248601625

**File name:** P1.pdf (425.77K)

**Word count:** 2607

**Character count:** 14999

## 2 Evaluation of Scientific Approach on Economics in SMA Negeri 2 Malang

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### 13 ABSTRACT

This research aims to: 1) describe teachers' difficulty level in constructing and learning process by using scientific approach; 2) analyze the benefits of students' text books in Economics both for the student and teachers' guidance text books; and 3) know the motivation and students learning activity.

This research is a quantitative descriptive design. The subjects of this research are Economics teachers in SMA N 2 Malang. In this research, the researchers are the key instruments who collect the data by interviewing, observing, and giving questionnaires. The data are analyzed by reducing, displaying, and verifying.

The results show that: 1) teachers feel there seem to be difficulties in making the construction and applying the scientific approach from the Economics books, especially in applying authentic scoring; 2) both students and teachers cannot get the benefit yet from the Economics text books; and 3) scientific approach can raise motivation and students' learning activity.

**Keywords:** evaluation of implementation, scientific approach, Economics

## 1. BACKGROUND OF THE STUDY

The learning process in the schools is one of the efforts of educators in accomplishing the purpose of education. According to Sutikno (2013) of education is: "Learning is an effort the educators do for their students so that the learning process is acquired for each students where the learning involve the activities of choosing, deciding, defining, developing method and also emphasizing on the methods to organize topics of the lesson, conveying the lesson materials and managing the learning".

Learning by using scientific approach is a learning process that adopts the scientific methods in building knowledge through scientific method. The learning model which is needed is the one that has possibility to make students have scientific thinking ability and the ability to think creatively, in which it will be possible to create the ability to learn, not only in getting the knowledge, skill, and behavior, but also the most important is how students get them.

Scientific approach is not only seen from the final result as the final score, but the learning process itself is also important. That is, scientific approach emphasizes on the creativity process. Learning model based on science process skill improvement is a learning model that integrates science process skill into the system of presenting integrated material. This model emphasizes on the process of seeking knowledge than transferring knowledge, students are viewed as the learning subjects that need to be involved actively in the learning process, teachers are facilitators who guide and coordinate the learning activity. The teachers' role in scientific approach is directing the learning process implemented by students and give correction to the concept and principles they get (Nurul, 2013).

Learning process in Curriculum 2013 for all stages is held by using scientific approach. It is expected that by using this kind of scientific approach students will have the love on the objective truth, not easily trusting something irrationally, having the

need to know, not easily making assumption, and always optimistic (Kemendikbud,2013). Scientific approach causes the change of learning process from giving information to students to letting them finding out and do the scoring process from using output basic become process basic and output. Learning process scoring uses authentic scoring approach that scores the readiness of students, process, and the learning result total<sup>3</sup> (Permen No.65 Tahun 2013).

The steps of scientific approach in the learning process include the seeking of knowledge through observation, question, experiment, process the information, present the data or the information, and continued to analyzing, reasoning, concluding, and creating. For lesson, the material or the certain situation, this scientific approach cannot always be applied according to the procedures. On such condition, the learning process should adjust the values or the scientific traits and avoid the non-scientific values or traits. The term of scientific approach in the implementation of curriculum 2013 becomes the interesting topic of discussion especially for educators, because in the learning process by using this curriculum is not only emphasizing on the creation of students' competencies, but also on the creation of students' characters which will be a blend among knowledge, skills, and behavior that they can demonstrate as a form of their understanding on the concept they learn contextually (Mulyasa, 2013). Relating with the scientific approach (Hosnan (2014) stated that: "The implementation of Curriculum 2013 in the learning process by using scientific approach is a learning process designed through processes in order the students will be actively constructing concept, law or principles through the phases of observing (to identify or find the problem), formulating problems, proposing or formulating hypothesis, collecting the data by using many techniques, analyzing data, making conclusion and communicating concepts, law or the discovered principles<sup>11</sup>

Scientific approach is regulated in Permendikbud No. 65 in 2013 concerning the Standar Proses Pendidikan Dasar dan Menengah. Scientific learning is a learning that adopts the scientific methods in building knowledge through scientific method. There are three things which involve in learning process, they are behavior, knowledge, and creativity. The learning by using scientific approach, field of behavior includes the substantial information or teaching material in order the students "know why". Field of creativity includes the substance or teaching material in order the students "know how". In other hand, field of knowledge includes substantial transformation or teaching material in order the students "know what".

Curriculum 2013 adheres the perspective that knowledge cannot be moved directly from teachers to students. Students are the subjects who have abilities to actively seeking, processing, constructing and using knowledge. It is convenient with the change of learning paradigm from teacher-centered to students-centered. The learning is no longer centered to teachers, but to students. Students are no longer as a piece of paper or an empty glass. The teachers' role is designing the learning, knowing the level of knowledge of each student and motivating them to improve their triumphs and preparing the interesting learning condition. Teachers must be capable of understanding the teaching material and the class too.

The roles of teachers in the learning process is as facilitator and motivator. Teachers give the facility for the students to be able constructing the ability they have. Besides, teachers should be capable of motivating the students to be active to achieve accomplishments. By the application scientific approach, it is expected that students

will have the independency in learning. The dependency to teachers must be reduced because students learn not to make the teachers intelligent but for themselves. The independency in solving problems and giving solution are things they need in their life.

## 2. RESEARCH METHOD

<sup>6</sup>This research is a qualitative descriptive design. The subjects of this research are Economics teachers in SMA N 2 Malang. Here, the researchers are the key instruments who collect the data by interviewing, observing, and giving questionnaires directly to the field of research. The data are analyzed by reducing, displaying, and verifying.

## 3. RESULT AND DISCUSSION

Implementation of Curriculum 2013 in SMA Negeri 2 Malang has been started since the school year of 2013/2014. In the learning of Economics according to Curriculum 20<sup>6</sup>, SMA Negeri 2 Malang uses scientific approach. Conforming the research result of learning implementation by using general scientific approach it can be said that teachers feel there seem to be difficulties in creating the plan and implement scientific approach on Economics lesson, especially in implementing authentic scoring. In implementing the learning by using scientific approach, it should be designed that students will be active in constructin<sup>3</sup> concept which students should master, as stated by Daryanto (2014) learning by using scientific approach is a learning which is designed to make students active in building concepts, principles throu<sup>10</sup> the steps of observing, formulating problems, proposing or formulating hypothesis, collecting data, analyzing data, making conclusion and<sup>3</sup> communicating concept, law or the discovered principle. These can be concluded that learning by using scientific approach will give understanding to the students in recognizing and understanding material. Scientific approach can give understanding to students that the acquired information not only from teachers but also from another sources through observation.

Related with the scientific approach, the scoring is authentic scoring. In implementing the score teachers must reflect upon the characteristics of authentic scoring, they are; 1) scoring based on portfolio; 2) answers from questions must be plural and should not contain singular answer; and 3) scoring must emphasize on the process not only on the result. This scoring must cover all aspects of affective, cognitive, and psychomotor that the score not only comes from the result of test. The scoring on the learning by using scientific approach includes process scoring, product scoring, and behavior scoring.

In the scoring process, there are many methods that can be taken which one of them is scoring by using portfolio. In this process, what can be scored is the students' readiness in doing an activity, process in doing the activity, and the result of the activity students do. Teachers can give score on each of the three components. The score range depends on the characteristics of the scored material. The score from the three components portray the achievement of competency and the result of students learning. This authentic scoring can be used by teachers as a basis to design restoration program, enrichment, counseling service, or as a basis to make the further design and learning process. Product scoring is a concept understanding, principle, and law or postulate. This scoring is a written test and the implementation can be done written, spoken or giving tasks to be done. Behavior scoring, can be done by observing while the students



are learning in a group, working individually, discussing, or during the presentation by using behavior observation sheet. This scoring is divided into three parts, they are scoring process, peer scoring, and scoring by teachers' journals.

Text books are learning facilities which students usually used in schools and in universities to support the learning process. In this process, text books have important role as the references students usually used in optimizing their potencies. That is why, it is important to make selection for the text books which will be used in the learning process. Based on the result of the research, it can be known that there seem to be no benefit yet on students' text books of Economics or in teachers' guidance books. Scoring must cover all affective, cognitive, and psychomotor aspects that the scoring is not only from the test result. The scoring on learning by using scientific approach includes process scoring, product scoring, and behavior scoring. Text books systematically must be adapted with the revised Curriculum 2013 to accomplish the need and improve the human resource especially for high school students.

According to the research result, it can be known that scientific research can improve students' motivations and their learning activities. The result of an interview with a teacher who teacher the X grade in SMA Negeri 2 Malang can be concluded that the learning by using scientific approach is good to be applied because it could make students more active and creative, students are not only listening but they can also participate in the learning process. Students are more active, creative and innovative in digging information on Economics lesson through 5M steps (mengamati, menanya, mencoba, menalar, dan mengkomunikasikan). The observation result can be seen that students actively participate in the activity. In questioning activity, most of the students participate to ask questions they haven't understood, in this activity too there are some students who do not participate. In trying activity, students are active in experimenting the result they have gotten from observation. In thinking activity, it can be said that students are very active. They share their opinions in their team and another team too. In communicating activity, students can convey their message well, because by conveying their result of discussion they can explain and give arguments. Scientific approach is relevant to create active learning where the learning is centered on students. Learning by using scientific approach can involve students' activeness because they are taught while doing something in order to find the answer of a problem. It is convenient with the characteristics of scientific approach as stated Daryanto (2014) learning by using scientific approach has these characteristics: 1) Students-centered, 2) Involving scientific process skill in constructing concept, law, or principles., 3) involving the potential cognitive processes in stimulating the development of intelligence, especially the skill of thinking in a high level, and 4) Capable of developing students characters.

#### 4. CONCLUSION

The results from the research show that: 1) teachers feel there seem to be difficulties in making the construction and applying the scientific approach from the Economics books, especially in applying authentic scoring. Authentic scoring includes all aspects of affective, cognitive, and psychomotor, which means the scoring cannot be formed only from the result of tests. The scoring in learning by using scientific approach include process scoring, product scoring, and behavior scoring; 2) both students and teachers cannot get the benefit yet from the Economics text books. The scoring must

include all aspects of affective, cognitive and psychomotor, which make the scoring is not formed only from tests. Scoring in learning by using scientific approach include process scoring, product scoring, and behavior scoring; and 3) learning by using scientific approach is really good to be applied for it could make the students active and creative, students will not only listen but also they can participate in learning process.

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