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The Implementation of Scientific Approach in Teachers' Lesson Plans for Teaching English at Junior High School

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ABSTRACT

Lesson plan is a plan which describes procedures and management of study in order to reach one or more basic competencies regulated in the standard of content and extended in the syllabus. The objectives of this research are 1) to analyze teachers' lesson plans in implementing scientific approach for teaching English in MTs Jatibogor, 2) to find out the problems faced by the teachers in developing English lesson plan in implementing scientific approach. This research focuses on nine lesson plans made by three teachers in different grades i.e. grades VII, VIII, and IX. This research is descriptive qualitative which uses content analysis. The research uses content analysis checklist, questionnaire, and interview. The results show that analysis of content checklist is 82.8%, which is good. The questionnaire data show that the difficulties faced by the teachers are 1) teachers still have difficulty in choosing operational verbs used to develop indicators, 2) difficulty in determining learning methods, 3) difficulty for evaluating the students' competence in accordance with authentic assessment. It is suggested that the teachers improve their understanding about Curriculum 2013 in implementing scientific approach.

Keywords: *Lesson Plan, Scientific Approach, English Teaching*

INTRODUCTION

Curriculum 2013 was officially implemented in the mid of 2013 as a substitution of Curriculum 2016 (Curriculum of Education Unit Level). The change of curriculum also brings about the change in the underlying approach. Curriculum 2013 implemented scientific approach which requires teachers to segment the students learning experience based on a scientific procedure. As stated by Lazim (2013), Curriculum 2013 should be applied in the atmosphere of focusing on students-centered learning, forming the students' self-concept, increasing students' thinking skill, providing opportunities for students to assimilate and accommodate the concept, laws, and principles, and providing opportunities for students to practice the skills of communication.

Ministry of Education and Culture or *Kemdikbud* (2013) states that the Curriculum 2013 can be implemented successfully by using scientific approach. The learning process is considered scientific if it fulfills the following criteria; objective factual, systematic method, accurate, logic, actual, and verified. Furthermore, teachers are asked to prepare and develop their teaching materials which are elaborated comprehensively in a lesson plan prior to teaching in the classroom. Thus, a lesson plan has an important influence on successful teaching and learning process because as Zhao (2018) stated it is a roadmap which directs and guides the teaching so that it can reach the goals.

Teachers prepare and develop a lesson plan by breaking down the curriculum into some stages in a form of a systematic written record. However, whether teachers are ready or not to apply the school curriculum will depend on their knowledge and competence to sort out, manage, and deliver the curriculum contents appropriately Sundayana (2015). Curriculum 2013 has five steps which must be available in teachers' lesson plan. The steps—such as observing, questioning, experimenting, associating, and communicating—can make students more active. But there are teachers who are still confused in placing the activities which students will do in the steps of scientific approach. From this case, it is considered essential to address the problems faced in making or developing lesson plan and whether the teachers' lesson plan is in accordance with the theory of scientific approach. Hence, this research is intended to focus on the implementation of scientific approach in teaching English, its conformation with the lesson plan and how the teachers face the problems in implementing the scientific approach in their lesson plans.

LITERATURE REVIEW

In Curriculum 2013, teachers should develop their lesson plan by implementing scientific approach. Scientific approach is a new approach in English lesson plans because the term "scientific" is more familiar with natural science, social science, and management (Suharyadi, 2013). The learning process adopts the scientist stages on building knowledge through the characteristics of science method (Barringer et al., 2010). Thus, it is a challenge for teachers to understand the stages and basic knowledge about scientific approach in Curriculum 2013 to be written in lesson plans.

The implementation of scientific approach in teachers' lesson plans is based on the real condition which is explained logically. Gerde et al. (2013: 317) say that the scientific method is a process for asking and answering question using a spesific set of procedure. The learning activities in Curriculum 2013 as stated by *Kemdikbud* (2013) and Hosnan (2014) are divided into observing, questioning, experimenting, associating, and communicating. The steps can be elaborated as follows:

a. Observing

In observing steps, two main activities should be carried out. First, the teachers provide an opportunity for students to conduct observation. Second, the teachers help the students when doing the observation and pre-teach the students about the things that they should observe from the object.

b. Questioning

Questioning is intended to motivate students to learn actively and develop questions critically; to improve the students competencies in giving presentation and asking questions so that the others can answer sistematically, logically, and grammatically; to motivate students to participate actively in discussion, argumentation, developing thinking ability and drawing conclusions; and to foster positive attitude such as responsiveness of giving and accepting opinions and promoting social tolerance.

c. Experimenting

Experimenting includes three steps; preparation, working, and follow up. In addition, five activities are carried out in experimenting; (1) grouping students, (2) asking students to do discussion, (3) taking notes of the findings, (4) supervising students in the learning process, and (5) assisting the groups that require some help.

d. Associating

Associating deals with students ability to do analysis and associate information exchanged in groups as well as to identify interrelationship patterns between different information. It, finally, directs students to be able to draw conclusions from the patterns.

e. Communicating

In communicating stage, students perform the competence to draw conclusion from the facts that they have previously observed and experimented. The activities that students do in this step are: (1) students read the results of their work, (2) students from the other groups listen to the presentation and are welcome to give feedbacks, (3) in the

end of the discussion, the teacher gives explanation, and (5) the teacher structures tasks and gives students chance to perform good attitudes, skills, and their comprehension of the material. Therefore, it is considered that by implementing scientific approach in curriculum, students are expected to engage actively in every stage of class activities and demonstrate multiple learning aspects such as knowledge, skills, and attitudes.

The scientific approach based curriculum also allows teachers as the facilitator to be creative in teaching with various methods and techniques. Even teachers can possibly go beyond methods, exerting their autonomy in developing a teaching framework that suits the students' interest in learning (Rachmatika, 2019). Therefore, teachers need to make a good lesson plan. Teaching may be thought as a step or activities. Activity planning and preparation are required before teaching a class. Mulyasa (2014) stated that lesson plan constitutes a planning which ilustrates the procedure and management of learning process to achieve one or more basic competences that are set in standard competence and described in syllabus. In addition, teachers must create lesson plan clearly and make evaluation data in every learning aspect. The important thing is the teacher is able to cooperate with other teachers so that they can encourage students to be active. Despite the challenges and opportunities, Nur & Madkur's study (2014) revealed that teachers are in favor of the innovative ideas offered by Curriculum 2013.

Sundayana's study (2015) on teachers' readiness and competence to implement Curriculum 2013 in junior high school shows that relatively well-prepared curriculum implementation is indicated by the conformity of lesson plan and teachers' actual performance in the classroom. It implies that lesson plan is considered as a teaching scenario which is prepared to direct classroom teaching. Therefore, the learning objective can be achieved successfully.

However, teachers may also find problems in implementing Curriculum 2013. A study by Retnawati et al., (2016) reported that teachers' difficulties are due to the lack of comprehension of Curriculum 2013 which includes the use of assessment, such as planning, conducting, and reporting the results of students' achievements. To solve this problem, they suggest that teachers be given training programs on the content of Curriculum 2013 including the learning process, the assessment and the school report making.

On the other hand, Zaim (2017) found that scientific approach implementation experienced by students can be problematic. Zaim claimed that in learning English using this approach, students are required to master basic oral English communication skill. In his research, he observed that the students who actively engaged in class activities were those who could express their ideas in English eventhough they use simple vocabulary and sentences. Consequently, the teacher has to see this as an important aspect that should be accomodated in the lesson plan. Zaim suggested that teachers improve their competence in stages of observing and questioning, particularly for reading and writing skills.

From the elaboration above, it can be seen that scientific approach applied in the classroom requires a preparation that needs to consider some aspects. Hence, it is essential to find out how the scientific approach is actually implemented by teachers at junior high school in their lesson plans. In addition, since teachers may meet challenges in preparing the lesson plans, this study also identified the problems faced when developing the lesson plans.

RESEARCH METHOD

It is a qualitative research which aims at exploring and understanding the issue. It applies descriptive study as its framework views that everything is potential to provide a clue that reveals a more comprehensive understanding (Bogdan & Biklen, 1997). In this research, the subjects were three teachers in different grades at MTs Jatibogor. The first teacher, DR (female), teaches grade VII students, the second teacher, AA (female), is from grade VIII, and the third teacher, HS (female) teaches grade IX.

In collecting the data, nine lesson plans used in each grade were collected. The instruments utilized in this study were content analysis checklist, questionnaire, and interview. The content analysis was conducted to collect the data about the content of the English lesson plans as a written or printed document. In this study, the researchers analyzed the lesson plans which were copied from the English teachers based on several components using the content analysis checklist. The researchers filled out the checklist of nine components, namely; core competency and basic competence, objective, indicators, time allocation, teaching activity, materials, methods of teaching, resource,

and assessment. These components have been taken from the components of lesson plan adapted from the Minister of National Education Regulation No. 81A Year 2013.

A questionnaire was used to English teachers of grades VII, VIII, and IX of MTs Jatibogor to gather the information to find out the problems faced by teachers when implementing scientific approach. An interview was conducted to verify the other data and also used as the supporting data to obtain some additional and relevant information related to the research. The interview was conducted in Bahasa Indonesia using open-ended questions in order that the teachers could speak freely to answer questions. Before conducting the interview, the teachers were given the list of questions. It helped the teachers provide more concise responses which facilitated the process of transcribing the interview results. Then, the data presentation of the lesson plan content was analyzed. A checklist was applied to review the lesson plan content for each aspect. An assessment rubric was used to assess the English teachers' lesson plans as follows:

Table 1 Grading of the Lesson Plan

Grade	Percentage (%)
Very good (A)	90% <A≤100%
Good (B)	80%<B≤ 90%
Enough (C)	70 %<C≤80%

The next review was conducted on the problems that the English teachers faced in developing the lesson plans by implementing scientific approach and also the efforts made by the teachers to overcome the problems. Finally, the results were presented descriptively.

RESULTS AND DISCUSSION

After interviewing three teachers of different grades at MTs Jatibogor, the researchers got some information related to developing lesson plans which implemented scientific approach. The researchers found some difficulties faced by the teachers in developing lesson plans through questionnaire. There were all nine teachers' lesson plans analyzed in this study. The lesson plans were reviewed by focusing on the lesson plan components which have been determined by Standard of Process of the Minister of

National Education Regulation No. 103 year 2013. In this research, some lesson plan components were analyzed. The components include indicators, objective, learning materials, learning activities, and assessment (*Kemdikbud*, 2013).

From the findings of data analysis, the indicators of the competency achievement aspect were identified. It can be interpreted that the teachers had no problem with this aspect and the indicators were already appropriate with the Standard of Graduate Competence (*Standar Kompetensi Lulusan/SKL*), the Core Competence (*Kompetensi Inti/KI*) and the Basic Competence (*Kompetensi Dasar/KD*) of the lesson plans developed. In other words, the indicators already used operational verbs which are measurable and observable. These followed the guidelines of the Curriculum 2013 and Standard of Process of the Minister of National Education Regulation No. 103 Year 2013.

After analyzing the objectives aspect, the data findings showed that the teachers did not find any problems dealing with the objectives written in all lesson plans. The objectives were in accordance with the basic competence as determined in Curriculum 2013.

For the materials aspect, the data findings showed that the materials established by the teachers were already good. They were found in almost all lesson plans. In addition, this aspect was appropriate with the students' characteristics. Learning material was arranged in detail of the core material containing facts, concepts (definitions), principles (rules), and relevant procedures. Then, it was written in the form of items that were based on formulation indicators of the competence achievement.

From the results of the analysis selection of resources study aspect, it can be concluded that the teachers were good at determining attractive and appropriate learning resources. Almost all of the lesson plans developed showed that the teachers used media in the teaching activities such as laptop, the Internet, and LCD projector. These facilities were easily used and accessed in the classroon because they were provided by the school. The use of various and ICT-based resources are very essential because it can attract students' interest in learning. As a result, the activities of classroom teaching-learning process will be more dynamic and alive. Furthermore, these technology tools

will be very helpful and easy for the teachers in applying any approach or technique they use in the classroom (Harmer, 2007).

The results of the analysis of the teaching activity aspect showed that the teachers were good at varying learning activities in the lesson plans by focusing on the students. This aspect is also in accordance to the scientific approach. It follows the principle of preparation of lesson plan point 9 in the Regulation of the Minister of Education and Culture No. 103 Year 2014 and has a connection and integration between competencies and the contents. Lesson plan is compiled by considering the relevance and integration with KI, KD, indicator of competence achievement, learning materials, learning activities, assessment, and learning resources in one whole learning experience. Pre-learning begins by conditioning the participants. In the pre-teaching section, the teachers gave students motivation. This phase is considerably important in order to encourage students' interest and willingness in learning English. In while-teaching, the teachers used 5 steps in scientific approach such as observing, questioning, experimenting, associating and communicating. According to the teachers, the steps that can be done or written in random are observing, questioning, and experimenting; while associating and communicating should be in sequence. In the post-teaching section, it implied that the teachers did not find any problem. For the lesson scenario or in the teaching activity, the teachers have specified the time allocation for the three stages of teaching; pre-teaching, while-teaching, and post-teaching. It is necessary that the teachers determine the time allocation in teaching activity for each phase in order that all activities can be managed well and effectively.

From the findings of the data analysis of assessment aspect conducted, it can be concluded that the teachers have some assessment problems, such as in developing assessment tools, instruments of assessment which are appropriate with the students' characteristics, and scoring of assessment or determining answer keys. But several tools of assessment were in line with the objectives and covered all the indicators in the lesson plans. Assessment activities on the aspects of attitudes, knowledge, and skill through three steps assessment were conducted by the teachers, namely: initial test, in-process, and final test. However, the assessment is not in accordance with the authentic assessment and guideline of Curriculum 2013. In contrast, Majid dan Rochman (2014)

stated that authentic assessment has a strong relevance to the scientific approach for learning in accordance with the guideline of Curriculum 2013.

Overall, the nine lesson plans were appropriate with Curriculum 2013 and appropriate with the scientific approach. The steps were written very well in the lesson plans. Sometimes the teachers used some methods such as collaborative learning and discovery learning adapted to the material that would be learnt. There was a motivation session for students before learning began. The use of teaching media was appropriate with Curriculum 2013 such as computer/laptop, LCD projector, and the Internet. The use of various and ICT-based resources is important so that the students are interested in learning and it can also avoid boredom and monotony in the teaching-learning activities.

The implementation of Curriculum 2013 in developing English lesson plans has some time segmentations in the learning process. Before teaching, the teachers must prepare the lesson. Learning preparation is the stage that teacher takes when learning will begin. The purpose of preparation is to facilitate the implementation of learning and influence the success of learning. Students give much influence in developing English lesson plans so the teacher should develop their lesson plans which are appropriate with students' characteristics. Based on the research questionnaire and interview with the teachers, the problems faced by the teachers in developing English lesson plans in implementing the scientific approach in the three grades of MTs Jatibogor are: the choice of operational verbs to determine indicators, determine learning methods, and determine strategies that attract students so that they are care and active. Making evaluations according to the characters of students is another problem. Sometimes the teachers still have deficiencies in determining the time allocation. It is not appropriate with the reality in the learning process. Besides, many activities can make the English teachers not focus on the time because lesson scenario can change according to the fact in the classroom.

Based on the findings related to the efforts made by the teachers, difficulties faced by the teachers in developing lesson can be overcome by:

1) looking for a lot of sources as lesson plan references or comparing lesson plan with other teachers' lesson plan to gain more knowledge;
2) attending MGMP workshop to improve the quality of knowledge and skill of teaching.

3) asking more experts in the process of developing lesson plans.

CONCLUSION

Based on the findings and discussion, it can be concluded that the English lesson plans over all consist of nine components developed by the English teachers at grades VII, VIII, and IX of MTs Jatibogor in academic year 2018/2019 were appropriate with curriculum and appropriate with scientific approach. The researchers concluded that the results of analysis of teachers' lesson plans by using content analysis checklist got 82.8%. Content analysis checklist of nine lesson plans made by three teachers is 932 : 1125 x 100%= 82.8%. Based on the rubric assessment that score is good.

In this research, it is found that the teachers still have difficulty in choosing the operational verbs used in developing indicators. It can be seen from the formulation of an indicator that does not fully follow KD. There is even KD that is not translated into indicators, and operational verbs were used inappropriately. In other words, English teachers need to develop the lesson plans based on the standard of the component of the lesson plan determined by Standard of the Process of the Minister of National Regulation No. 18 Year 2013.

Lesson plan design compiled by the teachers at the step of the scientific approach—questioning, observing, experimenting, associating, and communicating—were not arranged in a logical sequence. Teachers still found difficulty in evaluating students in the scientific approach since they did not follow the authentic assessment. To overcome the difficulties, the effort of the English teachers are (1) learning from some books and any resources from research journals and the Internet, (2) consulting with teachers community (MGMP), (3) comparing the lesson plan with other lesson plans which belong to other colleagues or teachers working in the same program.

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