



The Ability of Biology Education Students in Arrange 2019 Revised Lesson Plan

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Abstract

Lesson plans serve as guidelines for teachers when managing classes. However, some teachers choose to use the previous school year's lesson plans or copy their colleagues' lesson plans, this is due to the very detailed preparation of the 2013 curriculum lesson plans. This is the background for the Minister of Education and Culture to issue Letter Number 14 of 2019 concerning Simplification of lesson plan into three main components, namely learning objectives, learning activities, and assessment. The purpose of this study was to analyze the ability of Biology Education Students in arrange the 2019 Revised lesson plan. The research method used was descriptive quantitative with survey techniques. The research sample was 50 UNNES Biology Education Students. Instruments in the form of lesson plan assessment sheets and student response questionnaires. The results obtained are the ability of Biology Students in general is included in the very good category by 14%, in the good category by 10%, in the average category by 44%, in the low category by 28%, and in the very low by 4%. Biology Education Students are mostly in the average category of 22 students. The total of students in the very good, good, and average categories is 34 students with a minimum score of 79,2. Most of the Biology Education Students in preparing the 2019 Revised lesson plan (34 students) have been able to compose the lesson plan components, especially the lesson plan identity components, learning objectives, selection of learning media, learning steps, assessment, and good language in preparing lesson plan. Although there are some students who have general deficiencies in the time allocation component that is not included in the learning scenario, learning resources that only use textbooks, lesson plans do not bring students closer to interacting with the environment, evaluations do not include remedial and enrichment programs, and assessment attachments are sometimes missed. The results of the student response questionnaires became crosscheck to determine the level of student knowledge. The result of learning objective percentage of 91.2%, an assessment of 90.8%, an evaluation of 89.2%, preparation and guidelines lesson plan 87.6%, learning steps 86.4%, basic knowledge about the differences between the 2013 Curriculum lesson plan and the 2019 Revised lesson plan 85.36%, knowledge about the advantages and disadvantages of lesson plan 84.13%. The conclusion is most (34 students) Biology Education Students have been able to prepare the 2019 Revised lesson plan highest achievement is 99 and the lowest achievement is 68. The results of the student response questionnaire generally show that Biology Education students are good at understanding the arrange of the 2019 lesson plan.

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INTRODUCTION

Teachers as unit education components and have an interest in the teaching and learning process, teachers must have the ability to manage learning appropriately which has been prepared in the lesson plan (Anugraheni, 2017). The Lesson Plan is a “road map” that is used as a guide for the teacher when managing the class from the first meeting to the final exam. Lesson plans are also to ensure teachers have created meaningful learning and achieved effective and efficient learning (Bin-Hady et al. 2018).

Some teachers are burdened by the preparation of very detailed lesson plan. But now, the Minister of Education and Culture has revised the preparation format of the lesson plan in Letter Number 14 of 2019 about the Lesson Plan Simplification into 3 main components, namely learning objectives, learning steps, and assessments, while the others are complementary (Kemendikbud, 2019).

The changes made by the Minister of Education and Culture have an effect on UNNES, especially the Department of Biology Education, which has an interest in training students to prepare appropriate Learning Plans in Biology Teaching Management classes, so that students can make the learning process more meaningful and lead to the nature of science. Based on an interview on June 19, 2020 with a lecturer in the microtaeching class and a biology class management class, he argues that in general, students in arrange the 2019 Revised lesson plan have completed administration. However, in the material aspect, the ability to integrate with 21st century skills, the selection of learning methods, and the selection of assessments are still not appropriate. In addition, students are sometimes still very conceptual so that it is not relevant to the reality in class. Students also sometimes less attention to environmental conditions and student characteristics.

Biology Education students are said to be able to develop lesson plan if they have the ability to develop 3 main components. First, the administrative aspect, namely that there are already main components and complementary components. Complementary components are attached to the lesson plan document and the main components are learning objectives, learning steps, and assessment (Saptono et al. 2018). Second, learning objectives are in accordance with Basic Competencies (KD) and the sentences follow the ABCD rules. Third learning steps are described in detail , includes opening, core, and closing each activity is important (Anggraeni & Akbar, 2018) d) opening activities include aspects of delivering goals and appreciation. The core contains learning methods and provides opportunities for students to be active in learning and Higher Order Thinking Skills (HOTS) in the learning process. Closing activities are conclusions, evaluations, and follow-up lessons (Hanisa et al. 2018) e) the assessment includes affective, cognitive, and psychomotor assessments. In addition, the assessment at least includes critical thinking skills in solving problems. Based on the background of the study, the purpose of the research was to analyze the ability of Biology Education students in arrange the 2019 Revised lesson plan.

RESEARCH METHOD

This research uses descriptive quantitative method with survey technique. The research sample was 50 Biology Education students in 2017. Data collection techniques by checklist of asesment sheets and questionnaires. The research instrument used in the form of an assessment sheet to assess students' lesson plan. Questionnaire to find out student knowledge about the 2019 Revised lesson plan. The instrument has been validated by expert lecturers, the data analysis includes the results of the analysis of the lesson plans and students' knowledge of the 2019 Revised lesson plan. The lesson plan assessment sheet provides 4 alternative answers or responses, namely a scale of 0: not observed, 1: not good, 2: not good, 3: good, 4: very good, then analyzed using the following percentages.

$$\text{Score} = P = \frac{F}{N} \times 100\%$$

Description:

P= Percentage

F= Frequency

N= Total Frequency

After getting the scores, they are categorized based on the calculation of the mean (average) and

standard deviation using a five-point scale. The criteria used in assessing RPP are presented in the following table.

Table 1. Rating Table

Value	Rating
$X \geq M + 1,5 \text{ SD}$	Very Good (A)
$M + 0,5 \text{ SD} < X \leq M + 1,5 \text{ SD}$	Good (B)
$M - 0,5 \text{ SD} < X \leq M + 0,5 \text{ SD}$	Average (C)
$M - 1,5 \text{ SD} < X \leq M - 0,5 \text{ SD}$	Low (D)
$X \leq M - 1,5 \text{ SD}$	Very Low (E)

Description:

M = Mean

SD = Standard deviation

X = Score

Analysis of the questionnaire data by calculating the positive and negative responses. In the questionnaire, there are 5 alternative responses is Very Agree (SS); Agree (S); Doubtful (RR); Disagree (TS); and Very Disagree (STS). The question scoring instructions are: SS = 5, S = 4, RR = 3, TS = 2, STS = 1. Student response questionnaires were analyzed using the following percentage calculation:

Table 2. Criteria for Percentage of Student Response Questionnaires

Percentage Intervals	Category
>80	Very Good
$65 < X \leq 80$	Good
$50 < X \leq 65$	Average
$35 < X \leq 50$	Low
$20 < X \leq 35$	Very Low

RESULTS AND DISCUSSION

The results of the analysis of student lesson plan sheets are seen in general and based on the nine components of the 2019 Revised lesson plans, the maximum value is 99 and the minimum value is 68. The analysis of nine components include identity, time allocation, learning objectives, learning media, learning resources, learning steps, assessment, evaluation, and language presented in Figure 1. In addition, the results of the questionnaire analysis of student responses are presented in Table 3.

Figure 1. Analysis of Lesson Plan Components

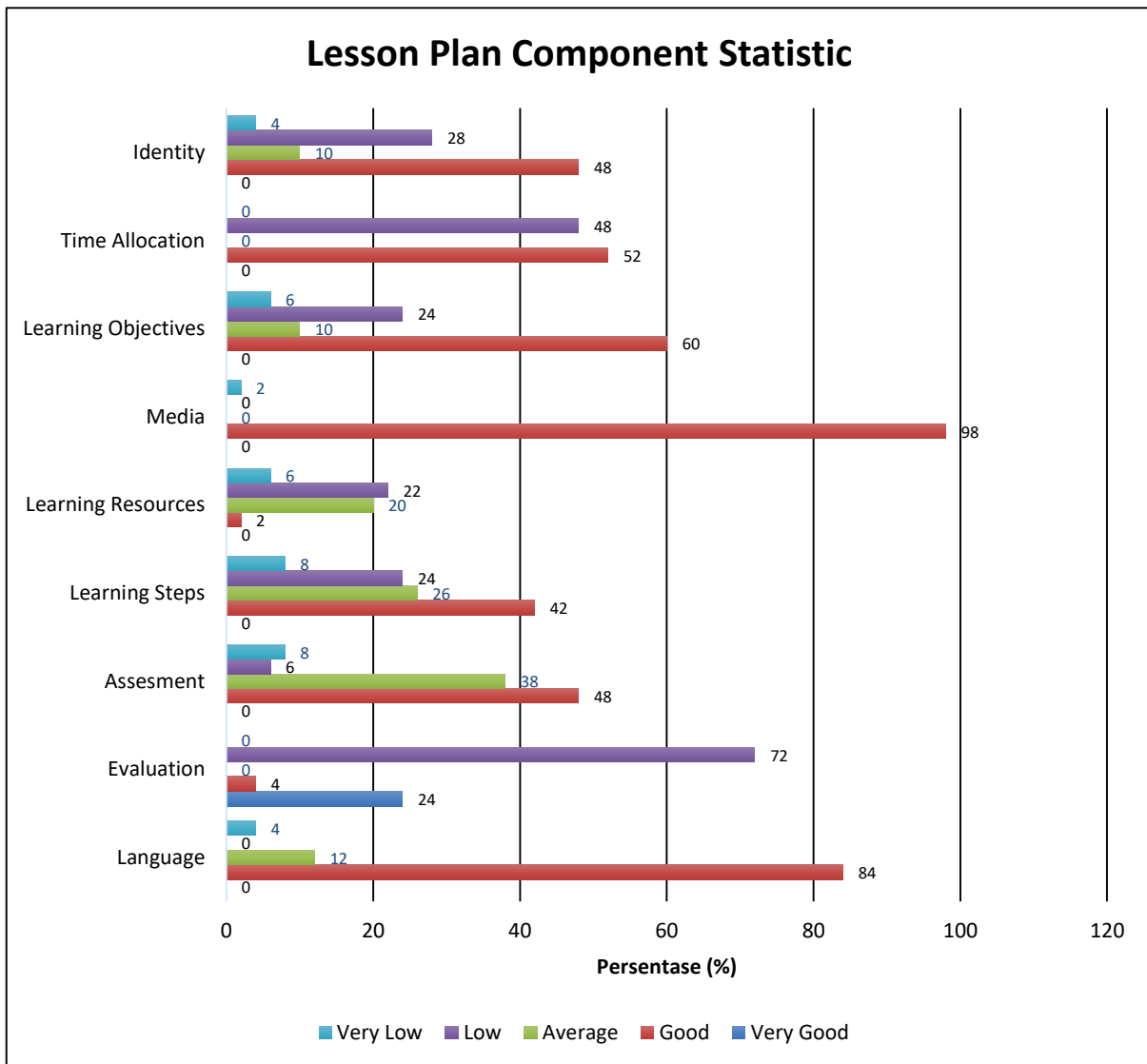


Table 3. Results of Student Response Questionnaire Analysis

Statement	Score (%)
The 2019 Revised lesson plans is known as a concise one-sheet lesson plan, although the preparation must be clear so that the lesson plans can be implemented by other teachers	95,2%
The 2019 Revised lesson plans is called a concise sheet but has complete attachments.	88,8%
Curriculum 2013 lesson plans use detailed sentences, so the teacher takes a long time to make lesson plans. This is the background for changing the format of the lesson plans with the aim that teachers have more time to develop varied learning tools/media.	84,4%
The components of the 2019 Revised learning plan do not have a significant difference compared to the 2013 curriculum learning plan	72%
The main activities. the 2019 Revised lesson plan is describing student activities, while the 2013 Curriculum lesson plan details student and teacher Activities.	86,4 %
The difficulty in compiling the 2019 Revised learning plan is to integrate the principles of developing lesson plans in short sentences. While the advantage of the 2013 Curriculum learning plan is that it makes it easier for other teachers to carry out learning activities in sequence	87,6 %
Preparing a Revised 2019 lesson plan requires less time, so it is considered easier for teachers	81,2 %
The advantage of the 2019 Revised lesson plan is that teachers can develop learning activities and are not fixated on the details of the activities written in the lesson plans	83,6 %
In the preparation of the 2019 Revised learning plan, it is still guided by the syllabus, KD, learning materials, learning activities, indicators, assessments, and learning resources. other than that	91,2 %
The preparation of the 2019 Revised lesson plan still pays attention to the integration between subjects, between learning aspects, and cultural diversity	84 %
Learning objectives refer to basic competencies and indicators of competency achievement	91,2 %
The learning steps in the lesson plan from the syntax of the learning model and conducting critical thinking for students	86,8 %
The preparation of the 2019 Revised lesson plan is oriented to learning activities that make students active and think at higher levels	86 %
Assessment consists of affective, cognitive, and psychomotor	90,8 %
Evaluation techniques are described in the lesson plans, while remedial materials, enrichment, rubrics and grids are described in detail in the appendix to the lesson plans.	89,2 %

Students' ability in preparing the Revised 2019 lesson plan

This study aimed to determine the ability of Biology Education Students in preparing the 2019 Revised lesson plans based on the assessment categories: very good, good, average, low, and very low. Based on Table 2. the results of the student response questionnaire, most of the Biology Education Students already know about the 2019 Revised lesson plan.

The analysis shows that the Biology Education Student lesson plan as a whole already has knowledge about the arrangement of the ideal 2019 Revision lesson plan, with details in the very good category at 14%, in the good category at 10%, in the average category at 44%. However, there are still students who

do not understand the ideal lesson plan in the low category by 28%, and very low by 4%, This is because students pay less attention to the preparation of learning objectives, do not use appropriate learning resources, and do not include remedial and enrichment programs. This result agrees with the research of Lubis et al. (2017) that the results of 20 samples of biology teacher lesson plans in senior high schools are mostly in the average category of 77%.

One lesson plan that is in the very poor category gets a final score of 68 because it does not match the learning objectives with basic competencies, the sentence learning objectives are not ABCD rules, preliminary activities do not contain apperception and less varied learning media. Rohayu et al. (2021) argue that the optimal use of learning media in classroom teaching is to invite students to think creatively. Therefore, teachers are required to be creative in utilizing the media available in schools.

Overall, the lesson plan prepared by Biology Education Students is based on 9 assessment components, namely the identity of the lesson plans, time allocation, learning objectives, learning media, learning resources, learning steps, assessment, evaluation, and language detailed as follows.

Lesson Plan Identity

Based on the results of the analysis of the identity of the lesson plans which are mostly in the 'good' category by 48%, these results show that many Biology Education Students understand the preparation of the identity of the lesson plans because the preparation of the identity of the learning plans is not much different from the 2019 Curriculum lesson plans. Based on the Figure 1 students who are in the low and very low categories as much as 42% because some do not include the related KD. This result agrees with Rohayati et al. (2018) if biology teachers have no difficulty in compiling the identity components of lesson plans.

Time Allocation

Most students are in the good category, which is 52%, meaning that students already understand the importance of time allocation in lesson plans and in the details of learning activities. However, 48% of Biology Education Students are in the poor category because most of them do not include details of time in the learning activity scenario, the same result in research Wayan (2020) that some students when writing the time allocation did not match the syllabus, besides that because students were not careful so that mistakes often occurred when writing them. This result is similar to the results of Fitriyah and Hayati's (2020) research, which is mostly in the good category because time details are very important in strategies, learning scenarios, and make it easier for teachers to determine learning steps well.

Learning Objective

An important and main component in the preparation of the 2019 Revised lesson plan is the learning objectives. This statement is same by the opinion of (Purnomo, 2015) that the learning objectives need to be written correctly, so that they can be used as a benchmark for the success of the learning process. Figure 1 shows that 60% of Biology Education Students are in the good category. Similar to that, in Table 3 the results of the student response questionnaire on the points of learning objectives the value obtained is quite high, namely 91.2%. So it can be stated that 60% of students have been able to write learning objectives with effective sentences, and are in accordance with basic competencies. while the other 40% formulate learning objectives without using measurable verbs or sentences that are less effective (sentences do not contain one of the elements of Audience, Behavior, Condition, Degree).

Learning Media

The suitability of learning media with other components is also important and cannot be separated from the learning process, innovative learning media can increase student learning interest (Setiawan, 2020) and specifically learning media in learning activities improve student learning outcomes (Srimaya, 2017). Based on the results of the analysis, Biology Education students were in the good category by 98% and only

2% were in the very low category. This means that 49 Biology Education students have been able to choose good and varied learning media. While 2% are in the very low category because the learning media is less varied or difficult for students to understand.

Learning Resources

The selection of learning resources according to Figure 1 of 52% is in the good category. While other students are in the category below either this is because students do not include learning resources, and learning resources are not varied. According to research by Aeni et al. (2013) the difficulty of teachers is the use of various learning resources, some teachers only use textbooks. Biology Education Students need to pay attention to the selection of learning resources that do not only use books, or textbooks. Varied learning resources are actually very effective in increasing student understanding such as the environment, or the library (Nur, 2012).

Learning Steps

Analysis of the components of the learning steps showed that 42% of Biology Education Students were in the good category. This means that most students are able to design learning steps in the 2019 Revised lesson plan by including 1) opening activities that include greetings and apperception, 2) learning model syntax, 3) student-focused learning activities, and 4) closing activities containing conclusions. learning activities, feedback, and reflection. In line with Table 3. the results of student questionnaires when writing learning steps get a knowledge value of 86,8%, meaning that students have understood how to prepare learning steps well. While 24% are in the poor category and 8% are in the very poor category because they do not include the syntax of the learning model and the learning activities do not focus on students. These results are similar to the results of research by (Rachmawati et al. (2016) on Biology teacher learning plans that at the opening of learning which consists of apperception and motivation are sometimes often forgotten by teachers, even though it needs to be done to make it easier for students to follow next step of learning. Bariyah (2014) in his research argues that sometimes teachers do not include question and answer activities as the application of learning that focuses on student activities and the concept of critical thinking with a scientific approach.

Assessment

The results of the assessment analysis that are in the good category are 48%. This shows that most of the Biology Education Student lesson plans are good, this result is supported by the value of student knowledge in Table 3. the value is 90.8%. Meanwhile, those in the category below are because some lesson plans do not include an assessment rubric, grids, questions, and answer keys. This result is similar to the results of research by Lubis et al. (2013) if the assessment of Biology teachers is included in the average and appropriate category, meaning the same as indicators and learning objectives, types of questions and items and answers keys.

Evaluation

Analysis of biology education students in writing evaluation components that are in the very good category are 24%, in the good category 4%, in the average category 0%, in the low category by 72%, and in the very low category by 0%. These results indicate that 36 Biology Education Students are mostly in the low category, this is because they do not include remedial and enrichment programs in the attachment to the 2019 Revised lesson plan. The results obtained are very unsatisfactory, but are similar to the results in the research of Wati et al. (2015) that almost all the learning plan documents examined did not include remedial and enrichment. Whereas remedial and enrichment programs are very important for students to improve learning outcomes and expand students' knowledge. According to Nugroho (2018), most education students and teachers do not include remedial and enrichment programs due to limited facilities and infrastructure, learning resources, and media.

Language

Analysis of the linguistic components that are in the good category by 84%, in the average category 12%, low 0%, and very low by 4%. The results indicate that 42 samples of lesson plans are in the good category. This means that when writing lesson plans, use sentences according to Indonesian language rules and use clear sentences, not only in the preparation of lesson plans but in the entire attachment of the lesson plans and student learning media such as LKS or LKPD (Indana et al. 2018). While Biology Education Students who are in the category low because they write sentences with multiple meanings. According to one student's statement, "The difficulty in preparing the 2019 Revised lesson plan is to write the syntax of the learning model in an easy-to-understand language" (Srimegawati, 2021). Then other students complained about the management of class hours because they were reduced due to the Covid-19 pandemic. In addition, the preparation of teaching materials, assessment rubrics, and attachments to the 2019 revision of the lesson plans are so detailed that they sometimes miss one of them. This problem is relevant to Ita's (2021) research on the ability of biology students, he argues that many students are still not suitable in integrating learning models with teaching materials, and often forget the completeness of lesson plans.

CONCLUSION

Based on the results of data analysis and discussion of research results, it was concluded that 34 out of 50 Biology Education Students were able to properly prepare the Revised 2019 lesson plan, and were able to compose lesson plan components, especially the lesson plan identity component, learning objectives, selection of learning media, learning steps, assessment, and language. Student response questionnaires became crosscheck data, getting the results that students already had good knowledge about the 2019 Revised RPP The highest achievement was 99 and the lowest achievement was 68. The results of the study prove that of students have been able to prepare the 2019 Revised RRP well, so for schools are expected to be able to recruit graduates of UNNES biology education because Biology Education students are already able to design teaching plans well so that they are worthy of becoming biology teachers.

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