

Training on Making Physics Teaching Modules Based on the POE2WE Model to Implement an Independent Curriculum for High School Teachers in Tasikmalaya Regency

Nana^{a)} Ernita Susanti^{b)} Yanti Sofi Makiyah^{c)}

Physics Education Study Program, Faculty of Teacher Training and Education, Siliwangi University, Tasikmalaya

^{a)}Corresponding author: nana@unsil.ac.id

^{b)}ernita.susanti@unsil.ac.id

^{c)}yanti.sofi@unsil.ac.id

ABSTRACT

Along with the implementation of the independent curriculum, there are still many teachers who do not understand the techniques for preparing and developing teaching modules, especially teaching modules based on learning models for student learning activities. Therefore, this community service aims to provide training in preparing teaching modules based on learning models that are in accordance with the demands of the independent curriculum so as to improve the quality of the learning process. The subjects of this activity were 31 high school physics teachers in Tasikmalaya Regency. Implementation of activities uses lecture, discussion and question and answer methods followed by direct practice. In each implementation, the POE2WE learning model is used. The results of this service show the teacher's ability to create open modules based on the POE2WE model. This can be seen from the open modules that have been produced in the process and after service activities. Based on the questionnaire given at the end of the activity, it appears that the direct benefits of the service activities that have been carried out are in the high category with a percentage of 87.06%.

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INTRODUCTION

Curriculum is a necessity in education. Along with the times and advances in technology, the curriculum is evaluated and improved (Marlina, 2022). Then the newest one currently being used in Indonesia is the independent learning curriculum, through this curriculum students are facilitated by teachers using local creativity owned by the school. With an independent learning curriculum, teachers have more freedom to present learning according to the abilities of each student individually. However, in this case the government has not made it mandatory to implement the Independent Learning curriculum, schools are given the freedom to choose 3 curricula, namely the 2013 curriculum, the emergency curriculum and the Independent Learning Curriculum (Marlina, 2023).

The independent curriculum is a curriculum that complements the 2013 curriculum with several changes that need to be known and studied by parties involved in the field of education in schools, therefore it is important to carry out various guidance and training on the elements involved in preparing teaching modules prepared by a teacher (Marlina, 2023b). The term that has changed after the publication of the 2022 independent learning curriculum is that the Learning Plan (RPP) has been replaced by the term teaching module.

The development of teaching modules aims to provide teaching tools that can guide teachers in carrying out learning. In its use. Teachers in educational units are given the freedom to develop components in teaching modules according to the environmental context and students' learning needs. Minister of Education and Culture Decree No. 56 of 2022 concerning Guidelines for Implementing Curriculum in the Context of Learning Recovery states that "Educators have the freedom to create, select and modify available teaching modules according to the context, characteristics and needs of students .

The preparation of teaching modules for the independent learning curriculum with the preparation of learning plans (RPP) in the 2013 curriculum is a plan for organizing learning to achieve the basic competencies specified in the content standards and described in the syllabus, only experiencing changes in terms that are not much different (Marlina, 2023b). From changes in the learning process centered on students so that enthusiasm for learning, motivation, interest, creativity, initiative, inspiration, innovation and independence are created through constructivism that emerges in students. In this case, the teacher facilitates and directs students to create learning objectives in accordance with those implemented in the independent learning curriculum guidelines and the teacher must develop teaching modules that are tailored to these needs. One learning model that is constructivist is the POE2WE model.

The Prediction, Observation, Explanation, Elaboration, Write and Evaluation (POE2WE) learning model was developed from the POEW learning model and the Physics learning model with a Constructivist Approach. This development was carried out as a refinement of the two previous models. The POE2WE model is a learning model developed to determine students' understanding of a concept using a constructivist approach. This model builds knowledge in a sequence of processes, namely predicting or predicting solutions to problems, conducting experiments to prove predictions, then explaining the experimental results obtained verbally and in writing, making examples of applications in daily life, writing down discussion results and including evaluations of participants' understanding. educate both orally and in writing (Nana, 2014).

According to data from the Tasikmalaya District Education Office (Marlina, 2022), the results of teacher performance assessments in Tasikmalaya District show the low ability of teachers in creating teaching modules based on learning models. This can affect the quality of learning in the classroom and ultimately can have an impact on student learning achievement. Therefore, efforts are needed to improve teacher competence in creating learning models based on the POE2WE learning model in order to improve the quality of learning in the classroom.

Efforts that can be made to increase teacher competency in creating teaching modules are through training in creating teaching modules. Training can provide teachers with the understanding and skills

needed to design and implement effective teaching modules. Various studies have shown that training can improve teachers' abilities in creating teaching modules (Chen, 2019).

Training is also in accordance with Law Number 14 of 2005 concerning Teachers and Lecturers, which states that teachers must have adequate competence in carrying out their professional duties, including in designing and carrying out the creation of teaching modules. Apart from that, the Ministry of Education and Culture has also issued a Learning Teacher Training (PGP) program as an effort to increase teacher competence in carrying out their duties, including in creating teaching modules.

This service was carried out at the Tasikmalaya Regency high school. This service will use training methods as a medium to increase the competency of high school teachers in Tasikmalaya Regency in creating teaching modules based on the POE2WE model. Training will be held using lecture methods, group discussions, and exercises to create teaching modules based on the POE2WE model.

The aim of this service is to increase the competency of high school teachers in Tasikmalaya Regency in creating teaching modules and to determine the effectiveness of training in increasing teacher competency in creating teaching modules based on the POE2WE model. This service will measure the increase in teacher competency before and after participating in the training, as well as evaluating the training that has been held.

It is hoped that the results of this service can contribute to the world of education, especially in developing teacher competency in creating teaching modules based on the POE2WE model that are effective and of good quality. Apart from that, it is also hoped that the results of this service will provide benefits to related parties such as the Tasikmalaya District Education Office and schools in the area. By increasing teacher competence in creating teaching modules based on POE2WE mode, it is hoped that it can improve the quality of learning in the classroom, so that it can improve student learning achievement. Apart from that, increasing teacher competence in creating teaching modules can also improve the results of teacher performance assessments in Tasikmalaya Regency.

METHOD

Place and Time

The activities will be carried out at Manonjaya State High School in September 2023.

Target Audience

The target audience is high school physics teachers in Tasikmalaya Regency, totaling 31 people.

Devotion Method

This activity consists of several stages including planning, implementation and reflection. The data in this activity was obtained through a questionnaire, then analyzed using qualitative descriptive statistics. The tools and materials used in this training are several examples of modules based on the POE2WE model that have been prepared by the presenter. This activity is carried out using lecture, discussion, practice and presentation methods. The activity method is shown in Figure 1:

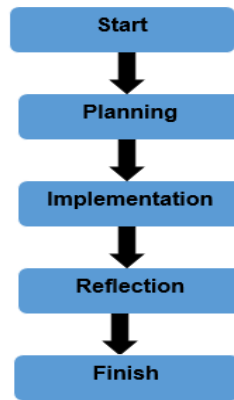


FIGURE 1. Flowchart of Activity Method

The steps taken in this service activity are planning, implementation and reflection. The planning stage is the stage of making proposals, selecting partners, informing partners. Furthermore, during the activity several information searches were carried out, such as a needs analysis which aims to find out and study the conditions and characteristics of teachers in learning, literature studies to find out the conditions of the school environment where the activity takes place and the needs of students, as well as determining the target subject of the activity. The implementation stage of activities is carried out based on the mechanism and general design of training activities which is coordinated with the Chair of the Tasikmalaya Regency MGMP. The activities were carried out at Manonjaya State High School in September 2023. The reflection stage was carried out to obtain participants' assessments of the activities that had been carried out. The assessment is carried out by filling out a questionnaire created in *Google Form*.

Success Indicators

Indicators for success in community service in training activities include 1. Increasing teachers' understanding and knowledge of creating physics teaching modules based on the POE2WE model. 2. Increasing teachers' abilities in creating physics teaching modules based on the POE2WE model appropriately and applying them to learning in Tasikmalaya Regency High Schools. 3. There is a preparation of learning implementation plans according to the field of study referring to the principles of the independent curriculum to be applied in classroom learning.

Evaluation Methods

The aim of this service is to develop teachers' abilities in creating physics teaching modules based on the POE2WE model which can be seen when experimenting and practicing together in developing learning tools. This evaluation can present the teacher's abilities, which can be seen from the suitability of the work results with the instructions and material explained by the presenter.

RESULT AND DISCUSSION

Planning

At the start of the activity, the team conveyed the training objectives for creating teaching modules based on the POE2WE model as an effort to implement the independent curriculum by explaining the importance of training for teachers. The provision of material is accompanied by a juridical basis which is the legal basis for creating independent curriculum teaching modules which is shown in Figure 2.



(a)



(b)

FIGURE 2. (a) dan (b) Delivery of Activity Objectives and Provision of Materials

Teaching modules are an integral component in the world of education which aims to facilitate the student learning process in a structured and organized way. In addition to providing essential information, teaching modules also have the ability to facilitate independent learning. Each teaching module is designed by taking into account the specific curriculum and learning objectives in this research, the Independent Curriculum. Apart from introducing the teaching module, material regarding the POE2WE model was also presented. The POE2WE model is a learning model developed to determine students' understanding of a concept using a constructivist approach. This model can make students as subjects in learning. Students are active in discovering a concept through direct observation or experimentation, not from memorizing books or explanations from the teacher.

Implementation

In the next activity, the team conveyed knowledge and skills on how to create teaching modules based on the independent curriculum POE2WE learning model and student learning needs. At this stage the team showed a direct example of a teaching module based on the POE2WE learning model that had been designed. In this activity, a question and answer session was also held regarding the format and content of the module and the POE2WE learning model that was presented as shown in Figure 3:



FIGURE 3. Example of a Teaching Module

Next, there are training activities by providing training to teacher participants in an integrated manner and direct practice in creating teaching modules based on the POE2WE model. In this activity, the service team provides guidance and assistance to participants who experience difficulties or obstacles during preparation. Apart from that, the team also checked participants' understanding in creating teaching modules based on the POE2WE model in an effort to implement an independent curriculum to be able to produce creativity as shows in Figure 4:



(a)



(b)



(c)

FIGURE 4. (a) Training Assistance, (b) Training Participants the Results of Making Teaching Modules, dan (c) Presenters and Participants

Succes of Activities

The results of the discussion and questions and answers at the end after the evaluation was carried out were conveyed by the participants that this training activity was very useful and they felt helped by this training. From the results of the preparation of the teaching modules that have been produced by the participants, it is planned that they will be implemented in high schools in Tasikmalaya Regency through classroom learning activities. It can be seen from the results of the modules that have been prepared by the participants that it is very clear that the teachers of SM A in Tasikmalaya Regency have gained knowledge and skills in compiling independent curriculum-based teaching modules that can be used in everyday learning at school. One of the functions of teaching modules is to reduce the burden on teachers in presenting content so that teachers can have more time to be tutors and help students in the learning process (Maulinda, 2022) in line with the opinion of (Ramadan & Ain, 2022) who say that having modules helps teachers improve the quality of learning, increase teacher professionalism, increase teacher competence, increase teacher self-confidence, and enable teachers to actively develop their knowledge and skills.

From 31 respondents, a practicality test score of 87.06% was obtained in the POE2WE Model-Based Teaching Module Creation Training activity in Efforts to Implement the Independent Curriculum for High School Teachers in Tasikmalaya Regency, showing a very satisfactory achievement. These results reflect the success and effectiveness of the training in preparing teachers to adopt the POE2WE Model and implement the Merdeka Curriculum very well.

Achieving a score of 87.06% indicates that the majority of training participants have understood and internalized the concept of the POE2WE Model well. They have successfully applied this approach in designing teaching modules that combine observation, exploration, elaboration and evaluation, as well as making effective use of online resources (weblinks). This indicates a strong level of understanding of the principles of student-focused learning.

The "very practical" category also reflects that the results of this training have been reflected in the daily teaching practices of high school teachers in Tasikmalaya Regency. They may have succeeded in changing the way they deliver material, integrating local values and social context in learning, and improving students' critical and creative thinking abilities. These results positively influence the quality of learning and development of student competencies.

Apart from that, achieving a score of 87.06% can be additional motivation for teachers to continue developing their teaching skills and practices. This is concrete evidence that they have the capacity to be agents of change in improving education in Tasikmalaya Regency. The success in adopting the POE2WE Model and implementing the Independent Curriculum very well provides positive encouragement for teachers to continue to develop themselves in order to improve the quality of education.

Evaluation results that place training activities in the "very practical" category also enable the dissemination of best practices to other schools in the region or outside the region. This can contribute to the improvement of the education system more broadly and be an inspiration for other education practitioners to adopt the same approach in implementing the Merdeka Curriculum. In conclusion, this score of 87.06% is a proud achievement and shows the commitment of high school teachers in Tasikmalaya Regency in improving the quality of education.

CONCLUSION

Training on Making Teaching Modules Based on the POE2WE Model in Efforts to Implement the Independent Curriculum for High School Teachers in Tasikmalaya Regency can be considered to have been carried out successfully and reached a high level of practicality, namely 87.06%. These results indicate that the training has provided significant practical benefits for teachers in adopting the POE2WE Model and integrating the Merdeka Curriculum in their teaching practices.

This success is reflected in the teachers' ability to understand and apply the POE2WE Model concept in designing relevant and effective teaching modules. High practicality scores also indicate that teachers have been able to apply the principles of the Independent Curriculum well, which include the use of online resources and a more interactive learning approach.

Apart from that, these results also provide positive indications regarding the impact of training on teacher teaching practices and student learning outcomes in Tasikmalaya Regency. With practicality of 87.06%, this training may have motivated teachers to continue to improve the quality of classroom learning, create a better learning experience for students, and make a positive contribution to improving the education system in the region.

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